MK ULTRA – CIA

MIND CONTROL RESEARCH

AND DOCUMENTATION

C.I.A. Data Show 14-Year Project On Controlling Human Behavior

By NICHOLAS M. HORROCK

Special to The New York Times

WASHINGTON, July 20—The Central Intelligence Agency conducted a 14-year program to find ways to "control human behavior" through the use of chemical, biological and radiological material, according to agency documents made public today by John Marks, a freelance journalist.

Mr. Marks, an associate of the Center for National Security Studies, asserted at a news conference that Adm. Stansfield Turner, Director of Central Intelligence, in a letter to the Senate Select Committee on Intelligence last week, "seriously distorted" what the C.I.A. research programs involved.

Mr. Marks said that, based on documents about the program he had received under the Freedom of Information Act, he had concluded that Admiral Turner "seems to be practicing what used to be called 'a modified limited harpout'" when he called the agency's activity "a program of experimentation with drugs."

"To be sure, drugs were part of it," he said, "but so were such other techniques as electric shock, radiation, ultrasonics, psychosurgery, psychology and incapacitating agents, all of which were referred to in documents I have received."

The documents made public today and the disclosure by the C.I.A. last week that it had found another cache of previously undiscovered records suggested broader experimentation on unwitting humans by the intelligence agency or its paid researchers than had been publicly known before. Mr. Marks said he had obtained or read about 1,000 C.I.A. documents, many of which were never turned over to the Senate intelligence committee for its 1975 investigation of agency activities.

C.I.A. spokesmen declined comment on Mr. Marks's charges. However, Admiral Turner told newsmen after leaving a meeting with senators that the agency

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94TH CONGRESS
2d Session

SENATE

REPORT
No. 94-755

FOREIGN AND MILITARY INTELLIGENCE

BOOK I

FINAL REPORT

OF THE

SELECT COMMITTEE TO STUDY GOVERNMENTAL OPERATIONS

WITH RESPECT TO

INTELLIGENCE ACTIVITIES UNITED STATES SENATE

TOGETHER WITH

ADDITIONAL, SUPPLEMENTAL, AND SEPARATE VIEWS

APRIL 26 (legislative day, APRIL 14), 1976

U.S. GOVERNMENT PRINTING OFFICE

69-983 O

WASHINGTON : 1976

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price $5.35

ties would have serious repercussions in political and diplomatic circles and would be detrimental to the accomplishment of its missions."[1]

The research and development program, and particularly the covert testing programs, resulted in massive abridgments of the rights of American citizens, sometimes with tragic consequences. The deaths of two Americans [2] can be attributed to these programs; other participants in the testing programs may still suffer from the residual effects. While some controlled testing of these substances might be defended, the nature of the tests, their scale, and the fact that they were continued for years after the danger of surreptitious administration of LSD to unwitting individuals was known, demonstrate a fundamental disregard for the value of human life.

The Select Committee's investigation of the testing and use of chemical and biological agents also raise serious questions about the adequacy of command and control procedures within the Central Intelligence Agency and military intelligence, and about the relationships among the intelligence agencies, other governmental agencies, and private institutions and individuals. The CIA's normal administrative controls were waived for programs involving chemical and biological agents to protect their security. According to the head of the Audit Branch of the CIA, these waivers produced "gross administrative failures." They prevented the CIA's internal review mechanisms (the Office of General Counsel, the Inspector General, and the Audit Staff) from adequately supervising the programs. In general, the waivers had the paradoxical effect of providing less restrictive administrative controls and less effective internal review for controversial and highly sensitive projects than those governing normal Agency activities.

The security of the programs was protected not only by waivers of normal administrative controls, but also by a high degree of compartmentation within the CIA. This compartmentation excluded the CIA's Medical Staff from the principal research and testing program employing chemical and biological agents.

It also may have led to agency policymakers receiving differing and inconsistent responses when they posed questions to the CIA component involved.

Jurisdictional uncertainty within the CIA was matched by jurisdictional conflict among the various intelligence agencies. A spirit of cooperation and reciprocal exchanges of information which initially characterized the programs disappeared. Military testers withheld information from the CIA, ignoring suggestions for coordination from their superiors. The CIA similarly failed to provide information to the military on the CIA's testing program. This failure to cooperate was conspicuously manifested in an attempt by the Army to conceal

[1] CIA Inspector General's Survey of TSD, 1957, p. 217.

[2] On January 8, 1953, Mr. Harold Blauer died of circulatory collapse and heart failure following an intravenous injection of a synthetic mescaline derivative while a subject of tests conducted by New York State Psychiatric Institute under a contract let by the U.S. Army Chemical Corps. The Committee's investigation into drug testing by U.S. intelligence agencies focused on the testing of LSD, however, the committee did receive a copy of the U.S. Army Inspector General's Report, issued on October 1975, on the events and circumstances of Mr. Blauer's death. His death was directly attributable to the administration of the synthetic mescaline derivative.

their overseas testing program, which included surreptitious administration of LSD, from the CIA. Learning of the Army's program, the Agency surreptitiously attempted to obtain details of it.

The decision to institute one of the Army's LSD field testing projects had been based, at least in part, on the finding that no long-term residual effects had ever resulted from the drug's administration. The CIA's failure to inform the Army of a death which resulted from the surreptitious administration of LSD to unwitting Americans, may well have resulted in the institution of an unnecessary and potentially lethal program.

The development, testing, and use of chemical and biological agents by intelligence agencies raises serious questions about the relationship between the intelligence community and foreign governments, other agencies of the Federal Government, and other institutions and individuals. The questions raised range from the legitimacy of American complicity in actions abroad which violate American and foreign laws to the possible compromise of the integrity of public and private institutions used as cover by intelligence agencies.

A. The Programs Investigated

1. Project CHATTER

Project CHATTER was a Navy program that began in the fall of 1947. Responding to reports of "amazing results" achieved by the Soviets in using "truth drugs," the program focused on the identification and testing of such drugs for use in interrogations and in the recruitment of agents. The research included laboratory experiments on animals and human subjects involving *Anabasis aphylla*, scopolamine, and mescaline in order to determine their speech-inducing qualities. Overseas experiments were conducted as part of the project.

The project expanded substantially during the Korean War, and ended shortly after the war, in 1953.

2. Project BLUEBIRD/ARTICHOKE

The earliest of the CIA's major programs involving the use of chemical and biological agents, Project BLUEBIRD, was approved by the Director in 1950. Its objectives were:

> (a) discovering means of conditioning personnel to prevent unauthorized extraction of information from them by known means, (b) investigating the possibility of control of an individual by application of special interrogation techniques, (c) memory enhancement, and (d) establishing defensive means for preventing hostile control of Agency personnel.[1]

As a result of interrogations conducted overseas during the project, another goal was added—the evaluation of offensive uses of unconventional interrogation techniques, including hypnosis and drugs. In August 1951, the project was renamed ARTICHOKE. Project ARTICHOKE included in-house experiments on interrogation techniques, conducted "under medical and security controls which would ensure

[1] CIA memorandum to the Select Committee, "Behavioral Drugs and Testing," 2/11/75.

funding mechanism for highly sensitive CIA research and development projects that studied the use of biological and chemical materials in altering human behavior. The projects involved:

> Research to develop a capability in the covert use of biological and chemical materials. This area involves the production of various physiological conditions which could support present or future clandestine operations. Aside from the offensive potential, the development of a comprehensive capability in this field of covert chemical and biological warfare gives us a thorough knowledge of the enemy's theoretical potential, thus enabling us to defend ourselves against a foe who might not be as restrained in the use of these techniques as we are.[12]

MKULTRA was approved by the DCI on April 13, 1953 along the lines proposed by ADDP Helms.

Part of the rationale for the establishment of this special funding mechanism was its extreme sensitivity. The Inspector General's survey of MKULTRA in 1963 noted the following reasons for this sensitivity:

> a. Research in the manipulation of human behavior is considered by many authorities in medicine and related fields to be professionally unethical, therefore the reputation of professional participants in the MKULTRA program are on occasion in jeopardy.
>
> b. Some MKULTRA activities raise questions of legality implicit in the original charter.
>
> c. A final phase of the testing of MKULTRA products places the rights and interests of U.S. citizens in jeopardy.
>
> d. Public disclosure of some aspects of MKULTRA activity could induce serious adverse reaction in U.S. public opinion, as well as stimulate offensive and defensive action in this field on the part of foreign intelligence services.[13]

Over the ten-year life of the program, many "additional avenues to the control of human behavior" were designated as appropriate for investigation under the MKULTRA charter. These include "radiation, electroshock, various fields of psychology, psychiatry, sociology, and anthropology, graphology, harassment substances, and paramilitary devices and materials."[14]

The research and development of materials to be used for altering human behavior consisted of three phases: first, the search for materials suitable for study; second, laboratory testing on voluntary human subjects in various types of institutions; third, the application of MKULTRA materials in normal life settings.

The search for suitable materials was conducted through standing arrangements with specialists in universities, pharmaceutical houses, hospitals, state and federal institutions, and private research organi-

[12] Memorandum from ADDP Helms to DCI Dulles, 4/3/53, Tab A, pp. 1–2.
[13] I.G. Report on MKULTRA, 1963, pp. 1–2.
[14] *Ibid*, p. 4.

zations. The annual grants of funds to these specialists were made under ostensible research foundation auspices, thereby concealing the CIA's interest from the specialist's institution.

The next phase of the MKULTRA program involved physicians, toxicologists, and other specialists in mental, narcotics, and general hospitals, and in prisons. Utilizing the products and findings of the basic research phase, they conducted intensive tests on human subjects.

One of the first studies was conducted by the National Institute of Mental Health. This study was intended to test various drugs, including hallucinogenics, at the NIMH Addiction Research Center in Lexington, Kentucky. The "Lexington Rehabilitation Center," as it was then called, was a prison for drug addicts serving sentences for drug violations.

The test subjects were volunteer prisoners who, after taking a brief physical examination and signing a general consent form, were administered hallucinogenic drugs. As a reward for participation in the program, the addicts were provided with the drug of their addiction.

LSD was one of the materials tested in the MKULTRA program. The final phase of LSD testing involved surreptitious administration to unwitting nonvolunteer subjects in normal life settings by undercover officers of the Bureau of Narcotics acting for the CIA.

The rationale for such testing was "that testing of materials under accepted scientific procedures fails to disclose the full pattern of reactions and attributions that may occur in operational situations."[15]

According to the CIA, the advantage of the relationship with the Bureau was that

> test subjects could be sought and cultivated within the setting of narcotics control. Some subjects have been informers or members of suspect criminal elements from whom the [Bureau of Narcotics] has obtained results of operational value through the tests. *On the other hand, the effectiveness of the substances on individuals at all social levels, high and low, native American and foreign, is of great significance and testing has been performed on a variety of individuals within these categories.* [Emphasis added.][16]

A special procedure, designated MKDELTA, was established to govern the use of MKULTRA materials abroad. Such materials were used on a number of occasions. Because MKULTRA records were destroyed, it is impossible to reconstruct the operational use of MKULTRA materials by the CIA overseas; it has been determined that the use of these materials abroad began in 1953, and possibly as early as 1950.

Drugs were used primarily as an aid to interrogations, but MKULTRA/MKDELTA materials were also used for harassment, discrediting, or disabling purposes. According to an Inspector General Survey of the Technical Services Division of the CIA in 1957—an inspection which did not discover the MKULTRA project involving the surreptitious administration of LSD to unwitting, nonvolunteer

[15] *Ibid*, p. 21.
[16] *Ibid.*, pp. 11–12.

~~CONFIDENTIAL~~

DEPARTMENT OF THE ARMY
Office of the Chief of Staff
Washington 25, D. C.

COPY

CCS: 385 (30 Jun 53)

30 June 1953

MEMORANDUM THRU: ASSISTANT CHIEF OF STAFF, G-4

FOR: CHIEF CHEMICAL OFFICER
THE SURGEON GENERAL

DECLASSIFIED
E. O. 12356, Sec. 3.2
DoD dir. 5200.30 3/21/83
By WGlenn, NARS, Date 5/28/86

SUBJECT: Use of Volunteers in Research

1. This directive prescribes policies and procedures governing the use of volunteers in research in defense against atomic, biological and chemical warfare. The purpose of this research is to permit a realistic evaluation and/or development of effective preventive measures of defense against atomic, biological or chemical agents.

2. Certain basic principles must be observed in order to satisfy moral, ethical and legal concepts. These basic principles are:

a. The voluntary consent of the human subject is absolutely essential.

(1) This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, over-reaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.

(2) The consent of the human subject shall be in writing, his signature shall be affixed to a written instrument setting forth substantially the aforementioned requirements and shall be signed in the presence of at least one witness who shall attest to such signature in writing.

(a) In experiments where personnel from more than one Service are involved, the Secretary of the Service which is exercising primary responsibility for conducting the experiment is designated to prepare such an instrument and coordinate it for use by all the Services having human volunteers involved in the experiment.

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(3) The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.

b. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.

c. The number of volunteers used shall be kept at a minimum consistent with item b, above.

d. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.

e. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.

f. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur.

g. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by experiment.

h. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury, disability, or death.

i. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.

j. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.

k. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill and careful judgement required of him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.

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(1) The established policy, which prohibits the use of prisoners of war in human experimentation, is continued and they will not be used under any circumstances.

3. The following opinions of the Judge Advocate General furnish specific guidance for all praticipants in research in atomic, biological and/or chemical warfare defense using volunteers.

a. Legality of accepting volunteers. The authority of the Secretary of the Army to conduct research and development activities is contained in section 104 of the act of 10 July 1950 (64 Stat. 322; 5 U.S.C. 235a) which provides:

> "The Secretary of the Army is authorized to conduct, engage and participate in research and development programs related to activities of the Army of the United States and to procure, or contract for the use of, such facilities, equipment, services, and supplies as may be required to effectuate such programs."

Section 101 of the Army Organization Act of 1950 (64 Stat. 264; 5 U.S.C. 131-4) provides in part as follows:

> "Except as otherwise prescribed by law, the Secretary of the Army may make such assignments and details of members of the army and civilian personnel as he thinks proper, and may prescribe the duties of the members and civilian personnel so assigned; and such members and civilian personnel shall be responsible for, and shall have the authority necessary to perform, such duties as may be so prescribed for them."

b. Military Personnel and Department of the Army Civilian Employees. Compensation for the disability or death of a civilian employee resulting from personal injury or disease proximately caused by his employment is payable under the Federal Employees Compensation Act (39 Stat. 742 et seq.), as amended (5 U.S.C. 751 et seq.), regardless of whether his employment was of a hazardous nature. The amount and type of disability compensation or other benefits payable by reason of the death or disability of a member of the Army resulting from injury or disease incident to service depends upon the individual status of each member, and is covered by various provisions of law. It may be stated generally that under present laws no additional rights against the Government will result from the death or disability of military and civilian personnel participating in experiments by reason of the hazardous nature of the operations, although it is possible that the Congress may confer benefits or grant relief by general or special legislation subsequently enacted. Even should the injury or disease result from a negligent or wrongful act, the recovery of any compensation or benefit under present law in addition to these noted above is doubtful.

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c. Use of Appropriated Funds for the Purchase of Life Insurance. In effect, the payment of insurance premiums on the life of an officer or employee is a form of compensation (Commissioner of Internal Revenue v. Bonwit, 87 F. 2d 764 (2nd Dir., 1937), cert. den. 302 U.S. 694, 82 L. Ed. 536; Canaday v. Guitteau, 86 F. 2d 303 (6th Cir., 1936)). In this regard, section 1765 of the Revised Statutes (6 U.S.C. 70) provides as follows:

> "No officer in any branch of the public service, or any other person whose salary, pay, or emoluments are fixed by law or regulations, shall receive any additional pay, extra allowance, or compensation, in any form whatever, for the disbursement of public money, or for any other service or duty whatever, unless the same is authorized by law, and the appropriation therefor explicitly states that it is for such additional pay, extra allowance, or compensation."

There is no statutory authority for the payment of premiums for insuring the lives of military and civilian personnel, and current appropriations for military and civilian pay and allowances do not expressly provide therefor. It follows that the payment of such premiums from appropriated funds is prohibited by the quoted section. The statutory provision in question is applicable to all military and civilian personnel of the Army "whose salary, pay, or emoluments are fixed by law or regulations" (24 Comp. Gen. 643 (1945).

d. Private Citizens. Section 3679 of the Revised Statutes, as amended (31 U.S.C. 665(b)), provides:

> "No officer or employee of the United States shall accept voluntary service for the United States or employ personal service in excess of that authorized by law, except in cases of emergency involving the safety of human life or the protection of property."

It is the policy of the quoted statute to prohibit the acceptance of voluntary services which may provide a basis for future claims against the Government. The stated policy applies not only where legal claims for compensation may arise from performance of the services, but also where the circumstances surrounding the proffer support a reasonable possibility that the services may provide the basis for seeking remedial Legislation from the Congress. The JAG is therefore of the opinion that the services in question should not be accepted by the Department of the Army. In view of this conclusion, it is unnecessary to consider the extent to which such persons could exert claims against the Government by reason of disability or death resulting from participation in the proposed experiments, or whether premiums on life insurance for the said participants may be paid from appropriated funds.

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e. Contractors' Employees. The applicability of the foregoing considerations to contractors' employees is considered below:

(1) Legality of employment. The authority of the Secretary of the Army to contract for services necessary to effectuate research and development activities is contained in section 104 of the act of 10 July 1950 (64 Stat. 322; 5 U.S.C. 235a), quoted in subparagraph a, above. There appears to be no provision of law which would prevent a contractor from employing his personnel upon experiments of the nature contemplated. In the literal sense, no question of "acceptance" of the services in question by the Government is involved, as the private relation of such an employee is with the contractor rather than the Government. It devolves upon the contracting officer to ascertain whether the terms are sufficiently broad to permit the participation of contractor employees in the experiment. The terms of the contract must insure that the contractor will observe the conditions and safeguards set forth in this directive.

(2) Claims against the Government. Generally, benefits to which a private employee may become entitled by reason of death or disability resulting from his employment are payable under State, rather than Federal, laws, with the exception of persons covered by the survivor's insurance provisions of the Social Security Act (49 Stat. 623), as amended (42 U.S.C. 402). In some situations the employee may have remedies against his employer under State workmen's compensation or other laws. It is not possible to generalize upon the right of such an employer, where he is a Government contractor, to claim reimbursement from the Government for additional costs by reason of liability to his employees incurred in this regard, as this depends upon the terms of each individual contract. The question of whether any additional rights against the employer-contractor may result from the death or disability of employees participating in experiments, by reason of the hazardous nature of the experiments, is likewise not susceptible of any general statement, due to the numerous factors involved. Such persons would not be disqualified from prosecuting claims against the Government under the Federal Tort Claims Act (28 U.S.C. 2671 et seq.). (See also AR 25-70, 2 March 1951.)

(3) Purchase of life insurance. In cost-reimbursable type contracts, the expense of maintaining group accident and life insurance plans may be an allowable item of cost under the contract (ASPR 15-204(b)). Group life insurance plans provided voluntarily to contractors' employees on a reimbursable basis are subject to review by heads of procuring activities to determine that greater benefits are not being extended under the cost-reimbursement type contract than those granted to employees under the contractor's regular commercial operations (APP 10-351). In special cases, life insurance for employees may be authorized by heads of procuring activities (ASPR 10-302; APP 302) even in fixed-price contracts (APP 10-301). In order to be applicable, cost principles

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must be set forth or incorporated in a cost-reimbursable contract (ASPR 15-102). It will be seen from the above that, if a contractor obtains insurance on the lives of his employees while participating in the proposed experiments, he may be reimbursed for the expenses involved only where the contract is of a type allowing reimbursement and the terms thereof allow recovery as an item of cost.

f. Irregular and Fee-basis Employees. The stated category comprehends all persons paid from appropriated funds for intermittent services, as distinguished from regular, full-time employees. For example, the Secretary of the Army may procure the temporary or intermittent services of experts or consultants, including stenographic reporting services, without regard to civil service and classification laws at rates not to exceed $50 per diem (sec. 15, act of 2 Aug 1946 (60 Stat. 810; 5 U.S.C. 55a); sec. 601, Department of Defense Appropriation Act, 1953 (Pub. Law 488, 82d Cong.); see CPR A7.6, par. 6-3). The employment of experts and consultants either on a per diem basis or without compensation is also authorized by section 710, Defense Production Act of 1950 (64 Stat. 819; 50 U.S.C. App. 2160). (See CPR A7.6, par. 6-3.) The Secretary of the Army may also employ architects, engineers, and other technical and professional personnel on a fee basis, without regard to classification laws (sec. 2, act of 7 Aug 1939 (53 Stat. 1240; 5 U.S.C. 221).

In general, the employment status of such person must be determined individually from the statutory authority under which they are employed and the terms and conditions of their employment agreements. In some cases it will be found that their status is not that of employees, but of contractors furnishing services to the Government at agreed contract prices. The following observations are made upon the applicability of the three questions considered in subparagraph e, above, to the category of persons under consideration:

(1) Legality of accepting volunteers. The terms of the statutory authority for the employment and the provisions of the employment agreement must be inspected in each case to determine whether the particular individual is an employee subject to detail or assignment upon the proposed experiments, or whether his employment is limited to other specific objects. If his employment upon the project is not so authorized, it would appear that acceptance of his services for this purpose on a voluntary basis would be prohibited by the considerations discussed in subparagraph d, above.

(2) Claims against the Government. The Federal Employees Compensation Act (39 Stat. 742 et seq.), as amended (5 U.S.C. 751 et seq.), is applicable to "all civil officers and employees" of the Government and all "persons rendering personal services of a kind similar to those of civilian officers or employees of the United States***without compensation or for nominal compensation, in any case in which acceptance or use of such services is authorized by an Act of Congress or in

which provision is made by law for payment of the travel or other expenses of such person." The foregoing broad coverage of the act would appear to include most irregular and fee-basis employees. However, the administration of the benefits in question are within the province of the Bureau of Employees Compensation, Department of Labor, and only that agency may provide a definitive ruling with respect to coverage of the individuals in question. With the foregoing reservation, the views of this office set forth in subparagraph b, above, would appear equally applicable to irregular and fee-basis employees.

(3) Purchase of life insurance. The Comptroller General has approved the payment of surgical and hospitalization expenses of a field employee injured while engaged upon flood control work (3 Comp. Gen. 57 (1923)), on the ground that "the employee's compensation was not fixed by law but was subject to administrative discretion, since, otherwise, payment of the expense by the Government would constitute payment of additional compensation, which is prohibited by section 1765, Revised Statutes" (28 Comp. Gen. 175 (1948)). Subject to such restrictions and limitations as may appear in the statutory authority under which he is employed, it would appear from the foregoing that the Government may legally bear the expense of premiums upon the life of an irregular or fee-basis employee whose rate of compensation is not fixed by law or regulations. In this regard, it may be advisable for the Government to provide an additional allowance to the employee for financing such private insurance arrangements as he may wish to make rather than to undertake direct negotiations with insurance carriers for the desired coverage.

4. Subject to the above conditions, Armed Forces personnel and/or civilians on duty at installations engaged in research in subject fields shall be permitted to actively participate in all phases of the program. As a general rule, volunteer subjects should be males under 35 years of age, with no physical or mental diseases.

5. Agents used in research must have the following limiting characteristics:

a. Controllable lethality.

b. No serious chronicity anticipated.

c. Effective therapy available.

d. Adequate background of animal experimentation.

6. As added protection for volunteers, the following safeguards will be provided:

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a. Direct responsibility for the planning and conduct of the investigations and for the medical care will rest with one adequately trained physician.

b. All apparatus and instruments necessary to deal with any emergency situations must be available, e.g., Drinker respiratory, Mine Safety Pneophor, oxygen apparatus, etc.

c. Medical treatment and hospitalization will be provided for all casualties of the experimentation as required.

d. The physician in charge will have available to him on short notice throughout the investigation competent consultants representing any of the specialties to be encountered.

7. Due to the specialized nature of biological agents, the following procedures in addition to the foregoing policies and procedures will be observed in regard to this phase of the program:

a. In selecting agents for investigation, priority should be given to those which possess a high probability of successful infection under operational conditions against U. S. forces.

b. The effectiveness of available defensive measures, either immunization or chemoprophylaxis, will determine the necessity for study of the agent considered.

c. Use enlarged (4X) Henderson or other suitable apparatus for exposure.

d. First experiments will be designed to determine level of susceptibility. The investigation should utilize the minimum number of volunteers which will yield statistically valid data at low levels of dosage.

e. Increase number of persons to that level which will give significance.

f. Then use immunized persons and persons on prophylactic chemotherapy.

g. Determine and apply details of immunologic study.

h. From the foregoing the final step will be to use volunteer subjects, of if there exists a good correlation with a particular animal for a particular micro-organism, then use that animal, on a proving ground, downwind far enough from the munition so that the concentration will be known to be approximately equal to the level required to induce infection. (This will rule out subjecting volunteers to "crash" concentrations.)

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3. No research in atomic, biological and/or chemical agents using volunteers will be undertaken until the Secretary of the Army has stated his approval in writing. The Surgeon General of the Army will review and comment on all proposals for the use of volunteers. When appropriate, he will seek the advice of The Surgeon General of the Navy, Air Force and/or the U. S. Public Health Service. The sponsoring Army agency will submit its proposal, together with the Surgeon General's review and comment thereon, to the Secretary of the Army through this office. As a minimum, the proposal will state the nature and purpose of the experiment and the name of the person who will be in charge.

BY DIRECTION OF THE CHIEF OF STAFF:

(Signed)
JOHN C. OAKES
Brigadier General, GS
Secretary of the General Staff

Copies furnished:

Asst. Chief of Staff, G-4
Chief Chemical Officer
The Surgeon General
The Judge Advocate General
Chief of Research and
Development, OCS

COPY

13

[redacted] A/B, 4, 23/32

Office Memorandum • UNITED STATES GOVERNMENT

TO : [redacted] A
Via :
FROM :

DATE: 3 March 1952

SUBJECT: Attached.

1. The attached memorandum is an Eyes Only report for your study and consideration.

2. The writer has set down personal comments relative the Bluebird operation and particularly contributions or rather lack of contributions to this effort by OSI. The writer has also commented relative matters involving the medical staff in relation to the Bluebird program.

3. The paper is not an official document, but rather a confidential report for I & SO information only.

4. If you have no further use for it after reading, I will retain it in our controlled files.

A [redacted]

that is useful along these lines. What effect these elements would have on individuals who are under control is unknown. However, certain of these elements could produce bodily conditions such as high fever, delerium, etc., but it is doubted if these conditions could be exploited advantageously.

5) Diet

If individuals under strict control are continuously fed food or liquid containing high quantities of salt, spices, etc. or if certain basic food elements (such as fats, starches, proteins, etc.) are continuously removed from the diet of controlled individuals, will they or can they thus be conditioned for Bluebird techniques?

There is considerable literature to indicate that a standard Soviet and satellite technique is the use of food containing high salt content, which produces thirst in the subject to be interrogated. The exact reasons for this are unknown, but a number of intelligent guesses can be made.

20. FURTHER COMMENTS RELATIVE ELECTRO-SHOCK

As has been noted above and in conversation, there has been a considerable amount of discussion relative possible uses of electroshock as a weapon by Bluebird.

It has been reported to the writer that [redacted], referred to above, believes that the electroshock or post electroshock coma can be u[redacted] obtaining information from individuals. According to [redacted] and his associates have been able to obtain information from subjects after the electroshock convulsion and during the coma period following the convulsion after the initial electroshock. There is very little information on this technique and while we are not certain that individuals who are attempting to conceal information could be forced to give up information through this method, the idea may have some merit, but it is apparently in experimental form only and has not been widely tested. At least as far as the writer knows there is little, if any, literature available relative this technique.

C
A

[redacted]

UNCLASSIFIED

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RADIATION EFFECTS

Volume I of II Volumes

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January 1965 - December 1970

DDC-TAS-71-24-I

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June 1971

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AD-633 620 6/18
CALIFORNIA UNIV SAN FRANCISCO DEPT OF NEUROLOGY
CENTRAL NERVOUS SYSTEM RESPONSE TO LOW-LEVEL X-IRRADIATION.
DESCRIPTIVE NOTE: FINAL REPT.,
DEC 65 [illegible] SAMS,CRAWFORD F. ;
CONTRACT: DCD-05-62-198
PROJ: 2-314

UNCLASSIFIED REPORT

SUPPLEMENTARY NOTE: ALSO ANNOUNCED AS PB-170 979.

DESCRIPTORS: (*CENTRAL NERVOUS SYSTEM, RADIATION EFFECTS), (*RADIATION EFFECTS, X RAYS), ELECTROPHYSIOLOGY, DOGS, NERVE CELLS, RADIOLOGICAL DOSAGE

AN ELECTROPHYSIOLOGICAL RESPONSE OF THE CNS OF DOGS MANIFESTED BY HIGH-VOLTAGE, ERRATIC SPIKING AND BILATERAL ASYNCHRONY WAS SHOWN TO EXIST FOLLOWING LOW-LEVEL HEAD-ONLY X-IRRADIATION OF 1 - 100 RAD. EVIDENCE OBTAINED IN A STUDY OF POSSIBLE MECHANISMS INVOLVED IS CONSISTENT WITH NERVE CELL MEMBRANE PERMEABILITY CHANGES. (AUTHOR)

Hearing Breakthrough?

'Ear Teeth' Wired for Sound

NEW YORK — (NEA) — Men will be able to hear through their mouths as well as their ears in the not-too-distant future is the research of two [illegible] scientists pans out.

"I couldn't hear you, my mouth was closed."

The idea isn't quite so simple, but the gist of the matter is that man can indeed hear this way — more precisely, through his teeth.

If you don't believe it, get a tuning fork or even an all-metal table fork, strike the prongs and hold the handle of the fork against your teeth. Be careful not to let your lips [illegible]

While making a telephone call six years ago, Dr. Earl Collard did the same thing you just did. He held a vibrating tuning fork against one of his teeth. Hearing a clear tone, he conceived the idea that this principle could be used to make a tooth-hearing device that would be [illegible] entirely in the mouth.

THE PRINCIPLE of tooth-hearing is called audiodontics and may be the basis of an entire new method of communication, according to Dr. Collard, assistant professor of dentistry at the [illegible] at Los Angeles.

Audiodontics holds promise in a host of areas ranging from [illegible] actors to signaling football players and from keeping track of children to helping some who are hard of hearing, says Dr. Collard who is working on the project under a basic research grant from the Division of Research Resources of the National Institute of Health.

The device works like this. A tiny receiver, no larger than a tooth, is placed in the mouth. It may be located in a gap left by a missing tooth, or a smaller device may be affixed to the back of a structurally sound tooth or even inserted inside it. A tiny transmitter/receiver would be located somewhere on the body, in a pocket for example. This device would pick up sounds sent from a given source and retransmit them several feet to the mouth. It would be a wireless arrangement similar to a walkie-talkie. The person with the audiodontic device would be able to hear words or music clearly although he could not transmit back the same way.

CONVERTING HIMSELF into a radio receiver, graduate student Gerald C. Dahlin places a plastic ear retainer in his mouth to pick up audiodontic transmitter's signal.

"When the sound gets to the mouth the tiny receiver drives it through the bones of the upper jaw and into the inner ear. Here the sound goes through the tiny ear bones, the hammer, anvil and stirrup, and is transmitted to the brain via the auditory nerve. If there is severe nerve damage, of course, the system is of no use.

Most hearing aids simply amplify sound in the air which is going to the ear-drum. Some hearing aids, however, do transmit sound through the mastoid bone, behind the ear, to the inner ear. This type of bone transmission hearing aid, as well as the tooth-hearing device, transmits sound to the inner ear through a mechanism sometimes referred to as "bone rattling," which it actually is.

Dr. Collard says that he has received hundreds of letters from people around the world who have been led to believe that the tooth-hearing device is a great new breakthrough for the deaf or hard of hearing.

"It is very difficult writing back to these people that what we have is basically a communications device that is completely concealed," he says.

The tooth-hearing device may indeed be useful for some hard-of-hearing persons, just as some benefit more from the bone conduction hearing aids than from the regular sound amplification systems.

Technically, of course, the audiodontic system is preferable because there are no wires or other devices to show. A child with this sort of hearing aid would not be subject to ridicule by his schoolmates. It also holds advantages for athletes or cripples or disabled persons because there is nothing on the head to get knocked loose.

ALTHOUGH Dr. Collard says he would be very happy if his device helped the hard-of-hearing, he adds that currently there are more applications for general communications.

Football players could receive instructions from their bench, deep-sea divers could get messages from the surface, professors could have their lectures "fed" to them and actors could be cued. All of this could be done without anybody ever knowing about it. Moreover, since the device does not block either ear, the person still has his full hearing faculties in addition to his "ear teeth."

Students could even cheat on exams by getting information via their teeth, and such a "crib sheet" would be virtually undetectable.

Dr. Collard, however, likes to talk about legitimate uses. "This device would add great stability to the hard-of-hearing child at play. There would be no chance of losing his hearing aid."

"Imagine," he adds, "a tiny transmitter safety-pinned to a child. Meanwhile, his mother, who might be cooking in the kitchen, could monitor where the child was as well as retaining her normal hearing."

DR. COLLARD and his colleague, Dr. Frederick Allen, an electrical engineer at UCLA, have already developed a working model for their audiodontics device.

"We are now in the pure research stage. We are testing the nerves of the teeth to determine the amount of force or energy necessary to vibrate the teeth. Once we have determined this, we can proceed with the design and manufacture of the [illegible] (device) to be inserted into the tooth," they say.

17

HEALTH

Drilling for Danger?

A debate over the safety of 'silver' fillings

As if there weren't enough reasons for qualms about visiting the dentist, here's another. The "silver" fillings sparkling in at least 100 million mouths include about 50 percent mercury (chart), a toxic heavy metal. Over the last 10 years, researchers have shown that mercury escapes from fillings and winds up in body tissues, but not whether the amount of mercury in those residues is harmful. This week, at a meeting of the American Physiological Society, scientists are presenting the first evidence that it is. Mercury "seriously compromises" organ systems in test animals, say Canadian and American researchers, and "should be banned immediately," concludes dentist Murray Vimy of the University of Calgary.

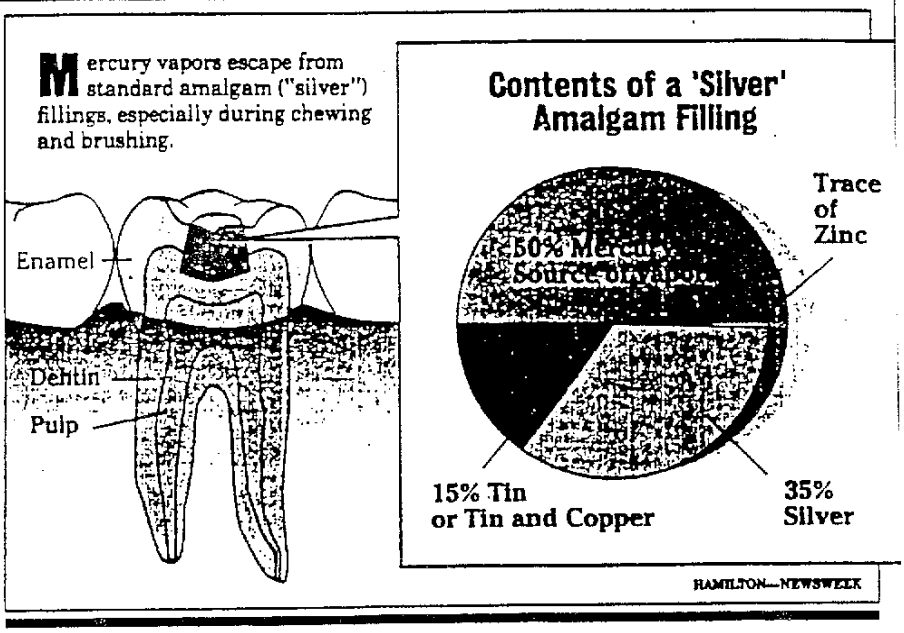
For most of the 150 years that mercury has been in fillings, the dental establishment insisted that it posed no health threat because it could not escape from the amalgam. Nevertheless, some patients have long claimed that replacing their silver fillings with gold, porcelain or composite resins (cost: $65 to $500 per) cured them of colitis, food allergies, PMS or multiple sclerosis. Although few doctors believed them, enough unscrupulous dentists were happy to rip out old fillings on any pretext. But in 1979 researchers established that mercury does leach from filled teeth. In fact, fillings can be the largest single source of exposure to inorganic mercury. The next step came when scientists showed that the escaped mercury winds up in body tissues: autopsies at Sweden's Karolinksa Institute found in 1987 that some people with silver fillings had three times as much mercury in their brain, and nine times as much in their kidneys, for instance, as those without fillings. The American Dental Association countered that the amounts of mercury reaching organs are too small to cause the tremors, anxiety and kidney disease triggered by heavy doses.

The latest study challenges that assertion. The Calgary researchers placed 12 amalgam fillings in the mouths of six ewes. Within two months, the test animals experienced a loss of kidney function of between 16 percent and 80 percent; control animals suffered no loss. And in the first such study in primates, the Calgary team will report next month that, in monkeys given amalgam fillings, mercury winds up in the kidneys, gastrointestinal tracts and jaws.

The ADA, partly out of concern that dishonest dentists will exploit patients' fears, dismisses animal studies as irrelevant to humans. It warns that any dentist who removes amalgam fillings "for the alleged purpose of removing toxic substances" is acting unethically, and opposes dentists' informing patients that silver fillings contain mercury that can be toxic. Says general counsel Mary Logan, "We don't want to make the public hysterical." Some nephrologists question whether mercury from fillings could seriously impair human kidney function. The number of people whose kidney disease might be traced to fillings is tiny, notes Stuart Sprague of the University of Chicago. But the crux of the debate is that amalgam foes have "never been able to tie any disease to . . . mercury from silver fillings," says dentist John Dodes, who heads an anti-quack group in New York.

That's because no one has really looked. That sort of investigation, plus laboratory studies comparing people with and without the fillings, is the next step. The Food and Drug Administration, which approved mercury fillings in 1976 under a grandfather clause that required OK'ing substances in wide use, says the new research could lead to regulatory changes. Until then, add amalgam fillings to the list of risks Americans must decide whether or not to bear.

SHARON BEGLEY *with* PATRICIA KING *in Chicago*



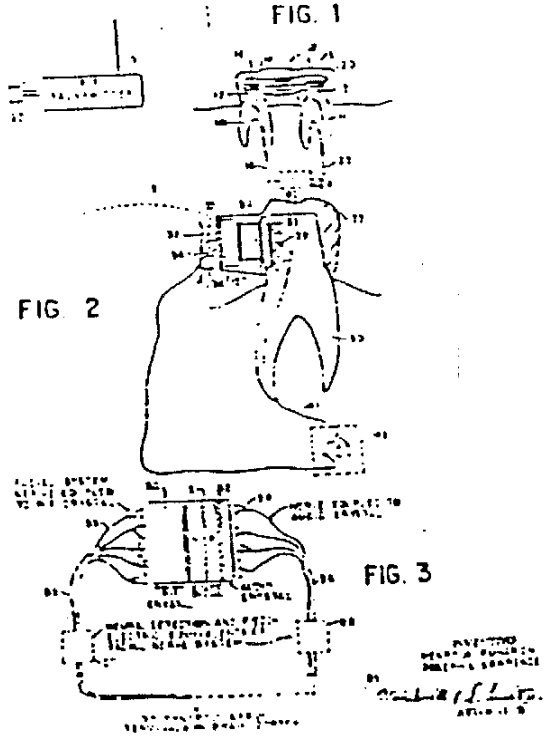


FIG. 1

FIG 2

FIG. 3

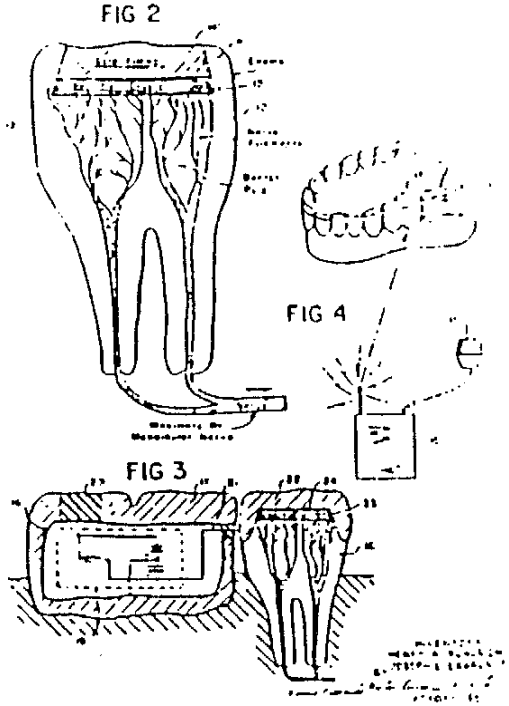


FIG 2

FIG 4

FIG 3

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13. Puharich and Lawrence
(a) Dispositif pour assurer l'audition avec ou sans intervention de l'ouie. Confederation Suisse, Expose d'invention No. 384,041. January 29, 1965.

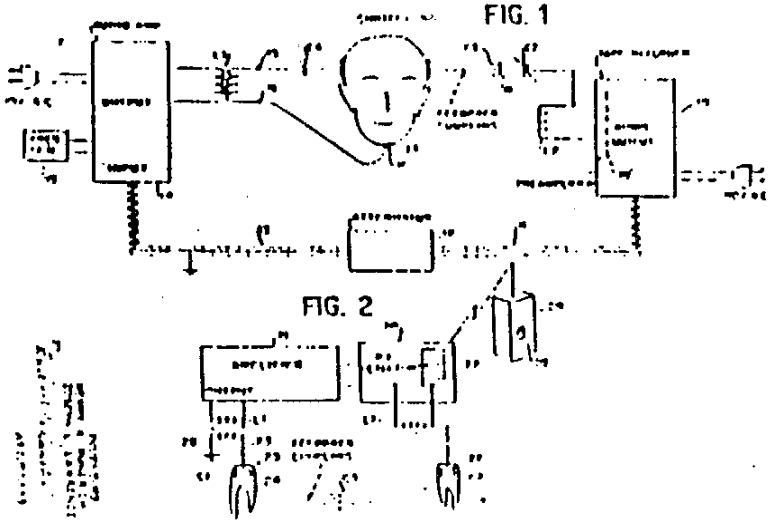
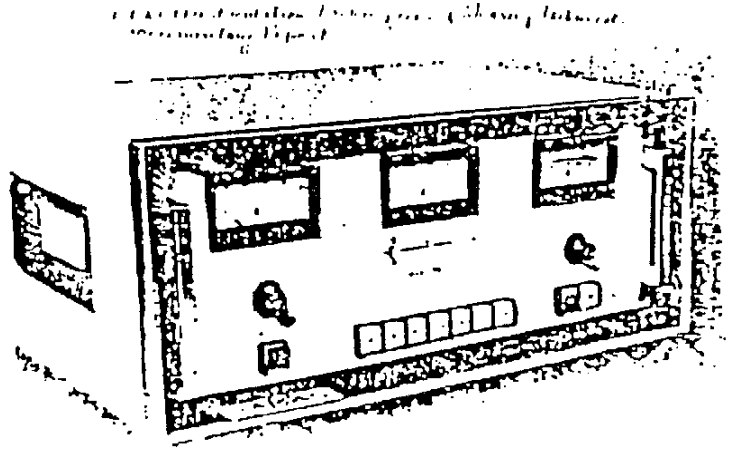
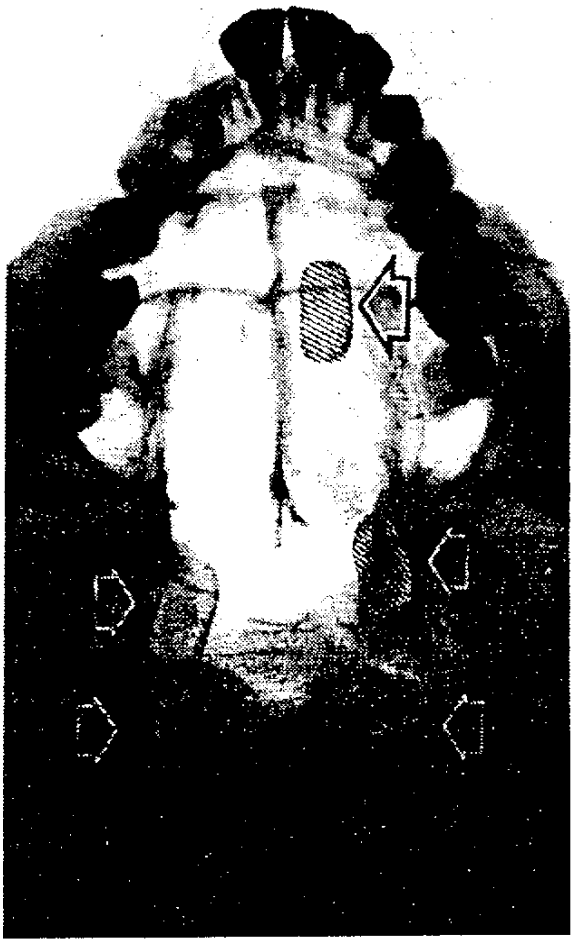


FIG. 1

FIG. 2



THE INTELECTRON MODEL TD-100
PROFESSIONAL TRANSDERMAL THERAPY INSTRUMENT



Top: X-ray photos of brain transmitters. Bottom: Dr. and Mrs. Skinner view daughter Debbie in a "Skinner box." Debbie committed suicide in her 20s.

Back to Basics Reform ... or Skinnerian International Curriculum? by Charlotte T. Iserbyt, 1985 (new printing, 1993)), 48 pages, paperback, $7.00. Available from Charlotte Iserbyt, 1062 Washington Street, Bath, ME, 04530. Postage and handling included.

A senior policy adviser in the U.S. Department of Education's Office of Educational Research and Improvement from 1981 to 1983, Iserbyt was one of the first to blow the whistle on the 1985 and 1988 U.S.-Soviet education exchange agreements that gave official U.S. sanction to collaboration between the mind controllers of the Soviet Ministry of Education and American change agents at the Carnegie Corporation, the American Council of Learned Societies, and other U.S. organizations. Besides initiating new ventures, those agreements expanded U.S.-Soviet educational research and exchange projects that had already been underway for many years Iserbyt presents compelling evidence to show that a coterie of social engineers in the major tax-exempt foundations and federal and state governments has been actively working on a hidden agenda "to manipulate and control Americans from birth to death using the educational system as the primary vehicle for bringing about planned social, political and economic change."

The Washington Times

WASHINGTON, D.C.

NOVEMBER 29, 1991

Ritalin – the 4th R?

Associates Joseph Power and John Dombrowski, 13, play outside their Fairfax County home. Both take Ritalin for Attention Deficit-Hyperactivity Disorder

Calming the classes raises concern

SPECIAL REPORT: PAGE

Ritalin – the 4th R?

Worries About Overactive Kids

Are too many youngsters being misdiagnosed and medicated?

They are Dennis the Menace come to life, half-pint hellions who drive parents and teachers to distraction with their disruptive antics. At home they clamber on kitchen counters, unscrew light bulbs and mess up the simplest tasks, from hanging up their clothes to making the bed. In school they throw erasers, kick desks, shove classmates and are so busy making nuisances of themselves that they fail to absorb their lessons. One bedeviled mother speaks for many when she says, "I would have given the kid away."

Such hyperactivity has emerged within the past decade as the most common—and controversial—childhood behavioral disorder. According to the National Institutes of Health, as many as 1 out of 10 U.S. youngsters—mostly boys—may suffer from the baffling syndrome. Doctors disagree about what causes hyperactivity, or attention deficit hyperactivity disorder (ADHD), as it is now known. Everything from brain damage to stress, food allergies or radiation from TV sets has been suggested. The NIH says the problem is probably a combination of as yet elusive genetic, environmental, neurological or biochemical factors. Diagnosis is difficult, since there is no laboratory test for the disorder, and the symptoms are vague and confusing. "Hyperactivity is in the eyes of the beholder," notes James Kavanagh, an NIH behavioral scientist.

Treatment for hyperactivity includes psychological counseling, special diets that restrict artificial flavorings and preservatives and, most typically, medication with such amphetamines as Ritalin and Dexedrine. For unexplained reasons, these drugs, which usually act as stimulants, dampen impulsive behavior in hyperactive youngsters and enable them to concentrate longer. Up to 750,000 American children now take drugs to control ADHD; that figure is expected to reach 1 million by the early 1990s.

But within the medical field and among parents concern is growing that too many youngsters are being incorrectly labeled and improperly medicated. Hyperactivity has become a convenient diagnostic wastebasket into which doctors and impatient parents, teachers and school administrators toss too many hard-to-handle children. Says pediatrician Martin Baren of Orange, Calif.: "Kids get diagnosed with this when the problem is something else, like a language or learning disability." Or they may be simply rambunctious. A recent study revealed that of 200 children brought to the University of Chicago's ADHD clinic, 40% did not suffer from hyperactivity.

The alarming fact is that many children whose symptoms have been misdiagnosed are being given Ritalin and other powerful drugs. Since 1987, parents around the country have filed more than a dozen Ritalin-related lawsuits against doctors, teachers and school districts. In one such suit, a Washington woman claimed that the drug led her six-year-old son to attempt suicide. Complaints about depression, listlessness and insomnia in medicated children are common. Valerie Jesson, of Derry, N.H., says her son Casey, 10, became a zombie while on Ritalin: "It knocked him into next week. His eyes would glaze, and he would just sit staring." Jesson is currently locked in a legal battle with New Hampshire's department of education over whether her son's public school can demand that he take Ritalin to attend regular classes.

Many physicians defend the use of Ritalin, citing studies indicating that the drug is generally safe and is effective in about 80% of cases of hyperactive children. Adverse effects are usually limited to temporary appetite loss and insomnia. "Ritalin is not a panacea," says researcher Howard Abikoff of the Long Island Jewish Medical Center, "but without medication we'd be up against the wall."

Yet some medical experts acknowledge that Ritalin is being overprescribed. In Georgia, Michigan, Utah and Maryland use of the drug is two or three times the national average. Says Andrew Watry, executive director of Georgia's medical board: "It's seen by some as a quick fix for behavior problems." The blame belongs not only to doctors, who sometimes give little more than cursory examinations before reaching for the prescription pad, and teachers, who want their classrooms to be peaceful. It also rests on parents, who often expect their children to be stellar performers. ADHD is most commonly diagnosed in prosperous suburbs, where the pressures to achieve are frequently greatest.

Doctors emphasize that drugs should be a last, not a first, resort. Minor interventions, such as moving a child to the front row in class or allowing him more time to complete tasks, can lead to improvement. Rewards—extra television or a favorite snack—can help reinforce good behavior. And psychological therapy can bolster a child's flagging self-esteem and address social problems, like a lack of friends, that contribute to his distress. Only when these remedies fail should parents try medication on their overly active youngsters. —*By Anastasia Toufexis. Reported by Joyce Leviton/Atlanta and Marguerite Michaels/New York*

SUSAN SPANN

Running around a schoolyard, as demonstrated by these normal children in San Francisco, is a good way to blow off steam. But today's youngsters, under ever greater pressure to be successful students, often have few such physical outlets.

FEDERAL INVOLVEMENT IN THE USE OF BEHAVIOR MODIFICATION DRUGS ON GRAMMAR SCHOOL CHILDREN OF THE RIGHT TO PRIVACY INQUIRY

. 1016

HEARING

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON GOVERNMENT OPERATIONS HOUSE OF REPRESENTATIVES

NINETY-FIRST CONGRESS

SECOND SESSION

SEPTEMBER 29, 1970

Printed for the use of the Committee on Government Operations

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24-25

DRUGS TESTED BY THE CIA UNDER PROJECTS BLUEBIRD, ARTICHOKE, MKULTRA, AND MKDELTA:

1. Adrenalin
2. Aktetron
3. Alcohol
4. Amphetamine
5. Amphetamine Sulphate
6. Analasine
7. Anhalamine
8. Anhalidine
9. Anhaline
10. Anhalonidine
11. Anhalonine
12. Anhalonium
13. Aphyllidine
14. Aphyllin
15. Atropine
16. Atrosine
17. Bambusa
18. Banisterine
19. Barbiturate
20. Belladonna
21. Benzidrene
22. Bendocaine
23. Bromoharmine
24. Bulbocapnine
25. Butyl-bromally-barbituric acid
26. Caffeine
27. Caffeine sodium
28. Calcium chloride (35)
29. Cannabidiol
30. Cannabinol
31 Cannabis
32. Cannabol
33. Caramine (narcotic)
34. Carboline
35. Caroegine
36. Chloral hydrate
37. Cocaine
38. Coffee
39. Coramine
40. Delvinyl sodium
41. Di benzo pyran derivatives
42. Dicain
43. Dramamine
44. Ephedrine
45. Ephetamine
46. Epinephrine
47. Ergot
48. Ergotamine
49. Ethyl harmol
50. Eucaine
51. Eucodal
52. Eukotal
53. Eunacron
54. Epicane
55. Escrine
56. Ether
57. Evipal
58. Evipan
59. Evipan Sodium
60. Evipan Sodium (35)
61. Genoscopolomine
62. Harmaline
63. Harmalol
64. Harman
65. Harmine
66. Harmine methiodide
67. Harmol
68. Heroin
69. Hexacol
70. Histadyl
71. Hydractine
72. Hypoloid soluble hexabarbitone
73. Icoral
74. Indole
75. Indole methyllarmine
76. Insulin
77. Lophop-nine
78. Lyscorbic acid
79. (illegible)
80. (illegible)
81. (illegible)
82. (illegible)
83. Manganese chloride (35)
84. Methy-cocaine
85. Metra-ol
86. Morphine
87. Morphine hyrdochloride
88. Narco-imal
89. Nambutal
90. Nicotine
91. Nikthemine (narcotic)
92. Nitrous oxide
93. Novacaine
94. Nupercaine
95. Pantocaine
96. Pantopone
97. Paralnyx
98. Peltotine
99. Pentobarbitol sodium
100. Pentothal acid
101. Pentothal sodium
102. Percaine
103. Pernoston
104. Peyotl
105. Phenactin
106. Phenamine
107. Pehyl-thio-urethanes
108. Picrate
109. Picrotoxin
110. Procaine
111. Pulegone-orcinol
112. Pulegone-olivetol
113. Pyrahexyl
114. Pyramidon
115. Quinie
116. Salsoline
117. Scolpolmine
118. Scolpolmine aminoxide hydrobromide
119. Scopolomine-pheta-mine-eukotal
120. Sodium (62)
121. Sodium amatyl
122. Sodium barbital
123. Sodium dielvinal
124. Sodium evipal
125. Sodium pentobarbital (nembutal)
126. Sodium pentothal
127. Sodium phenobarbital
128. Sodium rhodanate
129. Sodium soneryl
130. Sodium succinate (77)
131. Sodium thioethamyl
132. Somnifen
133. Stovaine
134. Strychnine
135. Styphnic acid
136. Sympatol
137. Synhexyl
138. Telepathine
139. Tatra-hydro-cannibol-acetate
140. Tetra-hydro-harman
141. Tetra-hydro-harmine
142. Tropacocaine
143. Tropenone
144. Yageine
145. Yohimbine sulphate

ADVISORY COMMITTEE ON HUMAN RADIATION EXPERIMENTS

Final Report

October 1995

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Fetal Attraction

IN THEORY, BRAIN CELLS THAT HAVE BEEN KILLED BY PARKINSON'S DISEASE CAN BE REPLACED WITH CELLS FROM THE BRAINS OF ABORTED FETUSES. NOW THAT THE NECESSARY POLITICS AND THE TECHNOLOGY ARE IN PLACE, NEUROSURGEONS ARE ABOUT TO FIND OUT IF THAT THEORY IS CORRECT.

BY JEFF GOLDBERG

PHOTOGRAPHS BY MAX AGUILERA-HELLWEG

CURT FREED AND ROBERT BREEZE INJECT FETAL TISSUE INTO THELMA DAVIS'S BRAIN. THE NEEDLE IS GUIDED BY THE STEREOTAXIC FRAME, A METAL RING PINNED TO DAVIS'S SKULL.

OVER THE PAST 11 YEARS, AS HER PARKINSON'S DISEASE HAS progressed, 68-year-old Thelma Davis has come to feel trapped in a body that will not move. The symptoms were unalarming at first. Davis told herself that the slight limp in her left leg was nothing serious, that the weakness in her left arm was just her imagination. But although the early signs of Parkinson's disease are so subtle that they are often ignored by patients and misdiagnosed by doctors, the disease takes a relentless course. Uncontrollable tremors began to appear in Davis's hands and legs. Because the disease affects movements of the jaw and mouth, speech became difficult for her. Little by little, her gait slowed to a flat-footed shuffle, and her face froze into the unblinking, unsmiling mask characteristic of Parkinson's sufferers.

The cause of the disease, which afflicts an estimated 1.5 million Americans, remains unknown, and there is no cure. Scientists do know that Parkinson's casts its imprisoning spell by slowly destroying a tiny section of the brain, the size and shape of a quarter, called the substantia nigra. The substantia nigra supplies the neurotransmitter dopamine to a larger area in the center of the brain, the striatum, which controls movement. As dopamine supplies from

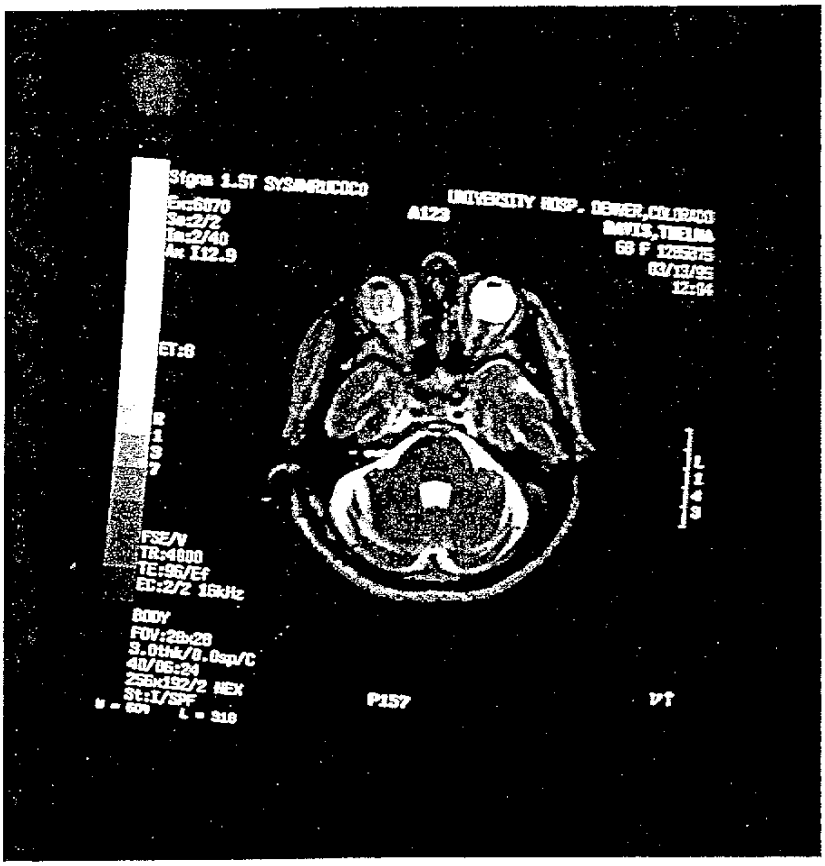
BECAUSE BRAIN TISSUE DOES NOT REGISTER SENSATION, THE OPERATION IS

the substantia nigra to the striatum dry up, movements slow, become erratic, and finally grind to a halt.

Parkinson's patients, like the rest of us, have plenty of dopamine elsewhere in their bodies; the conundrum is how to get it into their brains. Dopamine can't pass through the blood-brain barrier, a membrane that guards the interior of the capillaries in the brain. Fortunately, the drug levodopa, commonly known as L-dopa, can pass through the barrier, and once it reaches the substantia nigra, cells there convert it into dopamine.

Thanks to L-dopa, Davis was able to lead a relatively normal life for several years, continuing to work as the chief financial officer of a Long Island, New York, mortgage bank. But L-dopa inevitably fails as Parkinson's destroys substantia nigra cells, eventually leaving too few to convert the drug to the neurotransmitter. When her symptoms worsened, Davis reluctantly retired from her job. Now, despite a three-times-a-day regimen of short-acting and timed-release forms of L-dopa, she finds simple tasks like combing her hair and dressing difficult obstacles. She suffers from episodes of "freezing" when the drugs wear off, alternating with spurts of convulsive herky-jerky movements when they shock her system into overdrive—the classic "on-off" symptoms of advanced Parkinson's disease. Parkinson's itself is not fatal, but many patients die from injuries suffered in falls. Others end up wheelchair bound, unable to move or speak, or succumb to pneumonia.

AN MRI SCAN OF DAVIS'S BRAIN ALLOWS BREEZE TO PLAN THE NEEDLE'S ROUTE.



With her condition deteriorating, Davis has come to the Neural Transplantation Center for Parkinson's Disease at the University of Colorado in Denver for what could be her last hope of recovery—a fetal tissue transplant. In the operation, transplant team leader Curt Freed and neurosurgeon Robert Breeze will implant brain cells culled from aborted fetuses through a thin needle into Davis's brain. To make sure the dopamine reaches the cells that need it, the fetal tissue is grafted into the striatum, where neurons are alive but deprived of dopamine, rather than the substantia nigra, where they're dying. Davis and her doctors hope that as the grafted cells grow and integrate into her brain, they will pump out enough dopamine to replenish depleted supplies and give her back some of her lost mobility.

The tissue for the transplant has been collected, with the consent of the mothers of the fetuses, from private clinics where abortions are performed. It consists of brain cells from the mesencephalon, an area that develops into the substantia nigra and other midbrain structures, dissected from half a dozen six- to eight-week-old fetuses. The cells must be collected within a narrow window that opens between six and eight weeks into the gestation of each fetus, just before they have fully differentiated into dopamine-producing neurons. "Brain cells at this age can grow just like seeds," says Freed. "They establish root systems in the form of neural connections," regenerating damaged brain circuits. (If the cells are any older, they break up and die during the transplant process.) Because these fetal cells have not yet developed the antigens that trigger an immune response, they also appear to grow without rejection. Over the past 20 days, the cells have been cultured, screened for bacteria and infectious diseases, and tested for levels of dopamine production. Twice during the last three months, Davis's operation has had to be delayed because the tissue was less than perfect.

Davis begins her day by having a metal band bolted to her skull by four pins embedded in the outer layer of bone. A device that looks like a delicate geodesic dome is attached to the band, preparing Davis for her magnetic resonance imaging (MRI) scan. As a gurney inches her forward and back through a powerful doughnut-shaped electromagnet, a scanner detects radio signals emitted by hydrogen atoms in her brain. These signals are reassembled into three-dimensional images by the machine's computer and projected onto a bank of monitors, which Breeze studies intently. From the images, Breeze calculates the angles and routes of the needles that will insert the fetal tissue implants into target sites while

avoiding injury to arteries and vital brain structures. The domelike device provides a grid of reference points for plotting these routes.

After Davis is prepped for surgery and wheeled into the operating room, the dome is replaced with a stereotaxic frame, an awkward-looking device that resembles a large compass or sundial. The frame is a precision measuring tool. Its outer rim contains an array of small holes that can be adjusted to within a fraction of a millimeter to guide the needles delivering the fetal tissue.

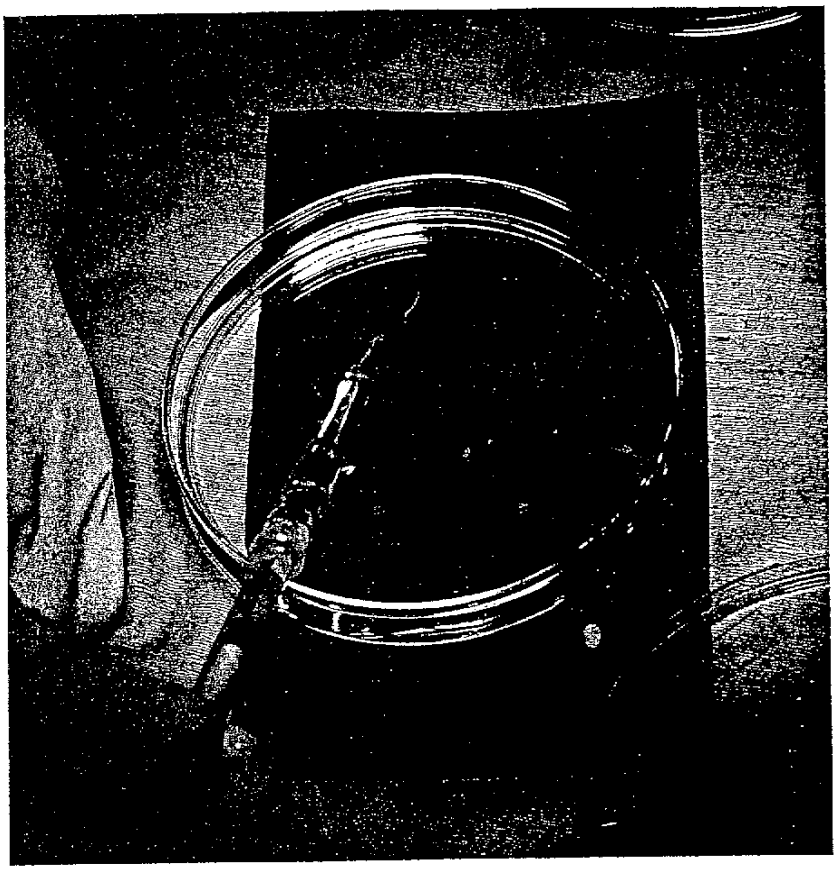
Breeze drills four holes a shade smaller than the diameter of a pencil into Davis's forehead and through her skull. As he carefully inserts the needle, Freed prepares the tissue, which has been transported to the operating room in a blue-and-white cooler. The tiny specks of tissue are suctioned into a syringe designed to extrude the tissue in fine, noodlelike strands. These are loaded into a hollow stainless steel tube called a cannula.

The operation is nearly bloodless and, since brain tissue does not register sensation, almost painless as well. Davis is sedated with a local anesthetic but remains fully awake. During stereotaxic procedures (which are most often used to obtain biopsy specimens of suspected brain tumors), it's better to keep patients awake and talking, Breeze believes, to help guard against even the remote chance that the needles and catheters inserted into the brain could cause bleeding and precipitate a stroke. While general anesthesia would routinely be used for open brain surgery, when Breeze can see what he's doing, during stereotaxic surgery he works blind, directing instruments into the brain based on computer calculations alone. If the patient were asleep and her brain began to bleed, by the time the doctors noticed, it could be too late. So the anesthesiologist keeps up a steady conversation with Davis throughout the operation, carefully listening for any confusion or slurring of speech.

The hollow needle is equipped with an inner stylet, to make it a solid probe that will not cut a core from her brain as Breeze taps the device gently forward. When the needle is in place, Breeze removes the stylet and replaces it with one of the cannulas that Freed has filled with fetal cells, and the infusion begins.

Two hours later, with two small bandages covering the incisions in her forehead, Davis is wheeled out of the operating room into intensive care. She'll go home after four days, but it will be months more before she knows whether the transplant has worked. Fetal tissue transplantation for Parkinson's disease remains highly experimental, and Freed cannot promise a positive outcome.

A SYRINGE EXTRUDES SMALL PIECES OF FETAL TISSUE IN FINE, NOODLELIKE STRANDS.



THELMA DAVIS IS ONLY THE TWENTY-second patient to undergo the procedure in Denver. Fetal tissue transplants for Parkinson's disease are also offered on a limited basis at Yale, the University of South Florida in Tampa, and the Good Samaritan Hospital in Los Angeles, as well as in England, France, and Sweden, where some of the first experiments with the procedure were performed in the mid-1980s. Roughly 200 such operations have taken place worldwide since the technique was introduced amid a storm of political controversy over the source of the transplanted tissue—electively aborted fetuses. In this country, despite the judgment of a National Institutes of Health advisory committee that fetal tissue transplantation was ethical and promising, government funding to test the technique in humans was banned during the Reagan and Bush presidencies. As a result, clinical studies were limited to a handful of patients. That ban was lifted by executive order during the first days of the Clinton administration, but now a new debate has surfaced, this time among scientists, over how well the transplants work.

"The moratorium distorted the scientific discussion," says D. Eugene Redmond, the leader of a transplant team at Yale. "To muster the political power to overturn it, the actual scientific accomplishments were somewhat exaggerated."

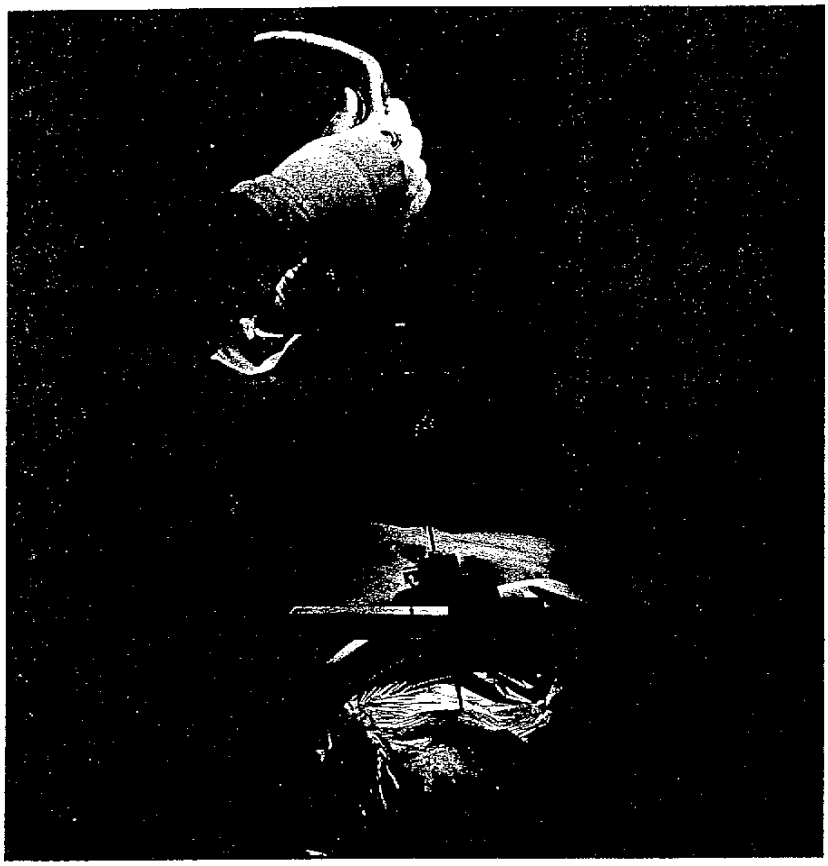
"There was a presumption that it would work if the ban wasn't there," adds William Freed (no relation to Curt Freed), an NIH researcher. "People

"WE KNEW THIS WAS AN ODDS GAME. PASSING NEEDLES INTO THE BRAIN

thought, 'Well, it's banned; it must be something really great.' "

Some patients have shown marked improvement on standard movement tests, such as touching a thumb and forefinger together or tapping their feet, and have resumed many daily activities that most people take for granted: tying their shoes or their ties, vacuuming or driving. They are able to reduce their medication by an average of 50 percent. One

WITH A PRECISION HAND DRILL, THE SURGEON BORES FOUR HOLES IN DAVIS'S SKULL.



of Curt Freed's patients, a California telephone lineman who had nearly lost his ability to speak and was embarrassed to eat with friends because he could no longer feed himself properly, celebrated the one-year anniversary of his transplant with a Thanksgiving dinner for 12. Another now enjoys cross-country skiing. "About a third of the patients have had their lives revolutionized," says Freed. "The problem is, the effects are variable."

One in three patients shows only moderate gains, and another third experience no long-lasting benefit at all from the operation. A few even get worse. There are other risks as well. The chance of something going catastrophically wrong during a transplant procedure is small—less than 1 percent that a needle will inadvertently strike an artery or a vital brain area. Nevertheless, in January 1994, Freed's seventeenth patient, a 55-year-old man with an eight-year history of Parkinson's, suffered a stroke in the operating room and died one month later—the first procedure-related fatality.

"We knew this was an odds game," says Freed. "Passing needles into the brain carries risk, and the risk of stroke is about 1 in 500 needle passes. At the time, we'd been doing 14 to 16 needle passes on each patient. With each operation, there was about a 3 percent chance of stroke."

Davis and other patients, many of whom have paid for the $40,000 operation privately, are willing to take that chance. "No other form of treatment holds as much hope as this," says Davis. Neurologists who routinely care for Parkinson's patients remain cautious about recommending the procedure without more proof, however. "Parkinson's disease is slowness of movement, not paralysis," points out Stanley Fahn, a Parkinson's specialist at Columbia Presbyterian Medical Center in New York. "Sometimes with enough excitement or stimulation, sudden movement can return. But this is only transient." Patients in advanced stages, who freeze when they try to cross doorways or are unable to walk across a room without holding onto the walls and furniture, can often negotiate a flight of stairs with ease, ride a bicycle, or catch a ball.

Fahn worries that some improvements observed in transplant patients may be the result of the excitement of undergoing the operation, the mystique of the transplant procedure, and the expectation of getting well. Parkinson's patients may be particularly prone to such placebo effects. Studies of new drugs have shown that as many as 30 percent of Parkinson's patients improve with placebo medications, albeit only briefly. Similarly, neurosurgical answers for Parkinson's disease are also suspect.

In one such surgical technique, called pallidotomy, surgeons destroy a minuscule area in the movement center of the brain—the internal globus pallidus—which is located at the base of the brain, just above the spinal column. The procedure was recently reported on *Prime Time Live* to reduce tremor dramatically in Parkinson's patients. But the *New York Times* followed up with a story detailing how the positive effects may not last, while the operation often leaves patients worse off than before. Skeptics also point out that tremor is only one among many symptoms of Parkinson's. Before L-dopa became a standard treatment, lesion therapies, in which surgeons destroyed parts of various brain structures (usually the thalamus), were also observed to relieve Parkinson's tremors, but these operations didn't relieve slowness of movement in any lasting way.

Autologous transplants, using dopamine-producing cells from a patient's own adrenal glands, also proved to be a disappointment. In the late 1980s hundreds of adrenal transplants were performed throughout the world (including about 100 in the United States) after

CARRIES RISK, AND THE RISK OF STROKE IS ABOUT 1 IN 500 NEEDLE PASSES."

Mexican neurosurgeon Ignacio Madrazo reported startling successes with the procedure. About 40 percent of the patients did experience some initial positive effects, but the benefits of the operation generally vanished before a year had passed. At least part of the problem, according to Freed, was that these cells produce mostly epinephrine and norepinephrine, with only a little dopamine. "They're just not the right kind of cell," he says. "Also, they don't survive well in the brain, because they don't belong there. The tissue around them doesn't provide a supportive environment."

The results suggest the patients were experiencing a placebo effect, but the side effects of the open brain surgery were real enough: respiratory problems, pneumonia, urinary tract infections, sleeplessness, confusion, and hallucinations. Patients had also suffered strokes and heart attacks while undergoing the surgery; about one in ten patients died.

TO PUT THE EFFECTIVENESS OF THE fetal tissue operation to the test, Freed and Fahn have joined forces on an unprecedented and controversial study. Forty patients, screened by Fahn at his clinic in New York, will undergo transplants in Denver. But to assure that whatever improvements the patients enjoy can legitimately be attributed to the procedure, the study will follow a double-blind, randomized design, similar to a drug trial, in which half the patients will receive a sham operation. Researchers will give the control patients an MRI scan, prep them for surgery, fit them with stereotaxic frames, and drill holes in their skulls; then Breeze will fake the rest of the procedure. Neither the patients nor Fahn, who will be evaluating their progress, will know who has actually received an implant.

"The pacing and atmosphere will be nearly identical to the true tissue implant," says Freed. "The strategy is to do things exactly the same way, maybe even have some tissue set up in a dish so there's time involved in picking up the tissue. We'll drill holes in the skull, the needles will be inserted into the stereotaxic apparatus, all the calculations will be done, the timing will be exactly the same, but the needles will not drop the last 5 centimeters into the brain."

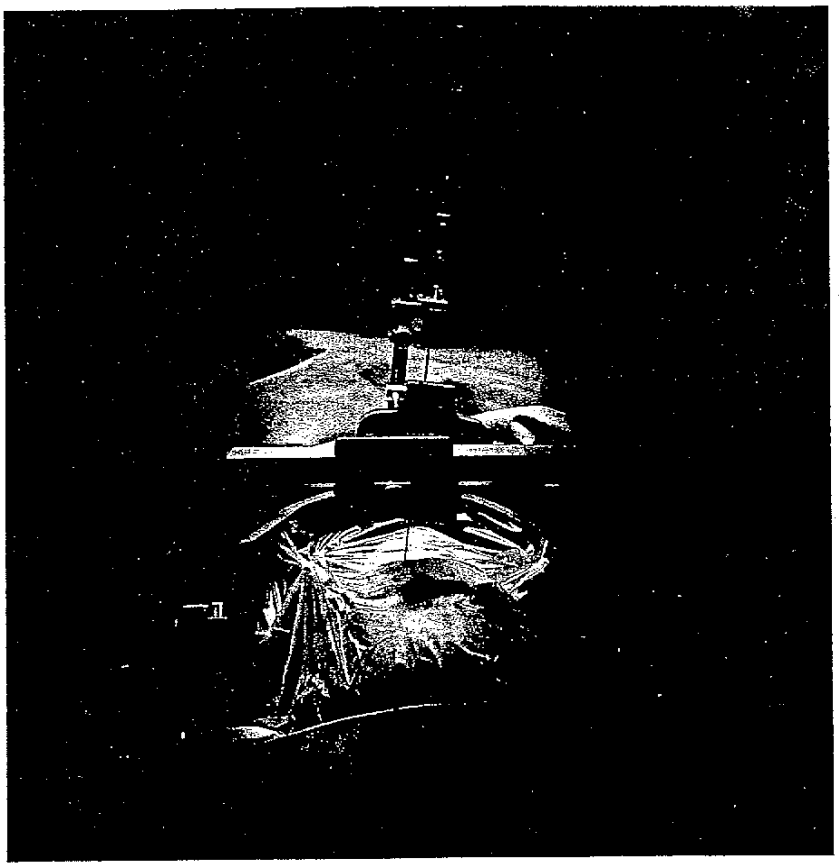
After the operations, Fahn will evaluate the patients by methods ranging from rating their performance on tasks like getting out of a chair to computerized analysis of their videotaped movements. Researchers will also perform positron-emission tomography (PET) scans to evaluate how well the tissue has survived and grown in the patients.

Members of the control group will be eligible to receive real transplants later—providing the procedure passes the test.

Freed hopes the studies will provide an unbiased estimate of the value of the procedure. The sham operation presents no additional risk, he says. As an added precaution, the NIH has assigned a Data Safety Monitoring Committee to oversee the studies. The committee has the option of stopping the studies if there are signs of any unexpected complications.

"What you don't want to do, especially with something as dramatic and

THE NEEDLE RESTS A MINUTE AFTER THE INJECTION, ALLOWING TISSUE TO DISPERSE.

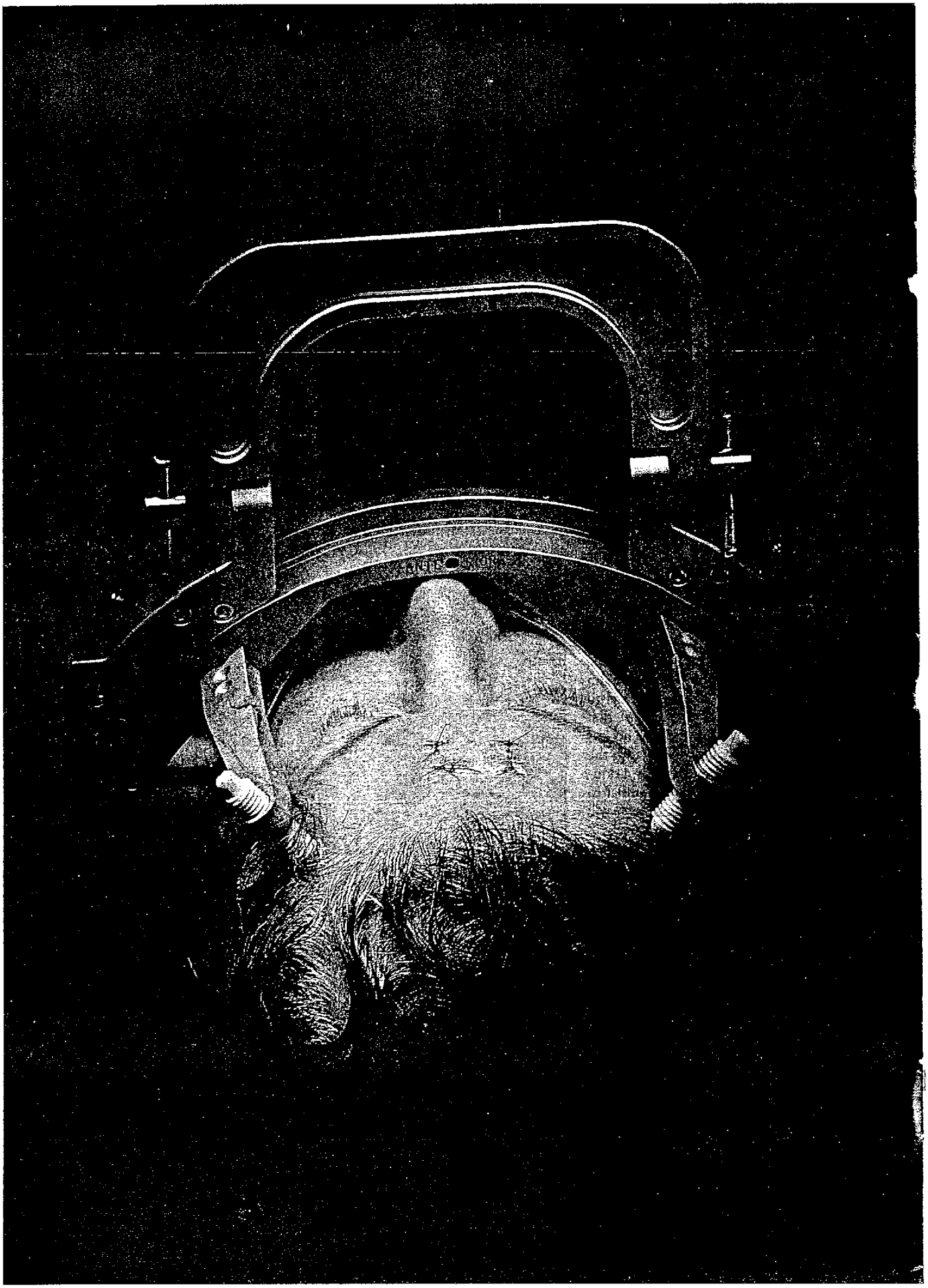


"We've promised them the treatment. But if it's a bust, they're better off having the sham surgery rather than the real operation," says Fahn.

The four-year, $4.8 million trial is being funded by the National Institutes of Health. This is the first grant awarded for a study of fetal tissue transplantation since the research moratorium ended. A second $4.8 million NIH grant has recently been approved for a similar controlled study of 36 patients who will undergo transplants at the University of South Florida in Tampa.

publicized as fetal tissue transplantation, is put yourself in a position where you're not sure that what you're seeing is real," says C. Warren Olanow, a neurologist at Mount Sinai Hospital in New York. Olanow heads the consortium of investigators that will conduct the second NIH-funded trial. "Is it better to expose a small number of patients to placebo than to forgo a control group and potentially expose hundreds of thousands to a procedure that may not work?"

However, other researchers consider the double-blind studies dangerous and



therefore unethical. "There's a one in a hundred chance that performing craniotomies on the surgical controls could result in the formation of blood clots. If one of those patients dies, it could set the field back several years," argues neuroscientist John Sladek of the Chicago Medical School.

Controlled trials of fetal tissue transplantation will remain premature, at best, critics believe, until gaping methodological differences between the transplant teams are resolved. The teams disagree on such crucial details as in which of the two sections of the striatum—the putamen or the caudate nucleus—to implant the tissue. The putamen appears to be responsible for a wider range of Parkinson's disease deficits, such as freezing and the inability to walk, but the caudate may govern a number of subtle functions, including eye movement. Researchers also disagree about how much tissue is needed (one to nine fetuses), how to prepare it for transplant (in suspensions, cultures, or cryogenically frozen and thawed specimens), and whether to place large quantities in a few locations or skewer the brain with 15 to 20 micrografts. Even the key question of whether patients should be treated with the immunosuppressant drugs used in organ transplant operations remains undecided.

BREEZE HAS SUTURED THE FOUR SMALL INCISIONS IN DAVIS'S FOREHEAD. SOON HE WILL REMOVE THE STEREOTAXIC FRAME FROM HER SKULL.

Improved tissue processing and implantation techniques could also resolve another major concern of researchers, the poor survival of fetal tissue. Recently, when one of Olanow's patients died (of unrelated causes) a year and a half after his surgery, an examination of his brain revealed that hundreds of thousands of fetal cells had survived and formed connections with surrounding brain tissue. But a handful of other autopsy reports and numerous animal studies, showing that up to 95 percent of the transplanted cells die, reinforce the need for further progress. "Although even a few surviving transplanted cells may be enough to produce clinical effects, poor survival may account for variability in the results we've seen so far," says Freed. "People doing kidney transplants were able to get better results simply by improving their surgical techniques and their handling of the organ."

Another problem is the needle-in-a-haystack task of gleaning usable dopamine-producing cells from 2-centimeter-long fetuses often smashed beyond recognition during abortions. The difficulty, Freed once told a Senate subcommittee, is so great that it should be an adequate safeguard against any potential abuses of fetal tissue transplants. Problems with tissue availability may also continue to limit the number of fetal tissue transplants that can be done in Denver and other centers.

TO OVERCOME THESE OBSTACLES, researchers elsewhere are exploring a number of new technologies, including new versions of autologous transplants. This time the cells used would be the patient's own skin and muscle cells, genetically engineered to produce tyrosine hydroxylase, a chemical the brain uses to make dopamine, as an alternative source of tissue. "From a skin biopsy the size of a quarter we can produce as much tissue in two weeks as you could harvest from a hundred fetuses," says Krys Bankiewicz, who is working with the California biotechnology company Somatix Therapy to perfect methods of mass-producing cells for transplant.

In April, doctors at the Lahey Hitchcock Clinic in Burlington, Massachusetts, began trials of cross-species transplants, inserting tissue from five fetal pigs into the brain of a Parkinson's patient. Porcine fetal brain cells are similar to human fetal cells but are more readily available. Experiments are also under way to test "encapsulated" dopamine-producing cells sealed in semipermeable plastic capsules. Because this delivery system is designed to allow dopamine out of the cells while preventing immune destruction, scientists hope unmatched adult tissue or even animal tissue could be transplanted into patients without immune suppression.

But dopamine may not be the whole story. Some researchers believe the fetal transplants may also produce growth factors—chemicals that stimulate nerve cells to sprout. In a recent article in the *Journal of Neurosurgery*, Bankiewicz describes experiments he conducted at the NIH in which he transplanted a variety of fetal cells—none of which produce dopamine, but all rich in growth factors—into rats and monkeys. The result was nearly as good as fetal transplants of mesencephalic tissue, producing "a measurable improvement" in the animals lasting 7 to 12 months.

According to Bankiewicz, the healing powers of fetal tissue grafts stem from a "dual effect" of dopamine and growth factors. Future studies may include trying to boost the effectiveness of fetal tissue grafts by infusing additional growth factors or injecting growth factors alone.

For the time being, however, patients seeking a transplant to relieve their Parkinson's disease have only one option—fetal tissue. "The field is still in its early stages. But I'm very optimistic that as our techniques improve we will have a chance of curing Parkinson's," says Freed. "The patients are desperate, and we have no other means of helping them. If they could wait five years, we could probably do it better. But some can't."

Despite the risks and unknowns, there's no lack of volunteers for the trials. Enrollment has been completed in the 40-patient Denver study, and though the 36 patients for the Tampa trial have not yet been selected, Olanow has had no trouble finding willing subjects for the study's preliminary stages. The Denver patients range in age from their early fifties to 75; Olanow expects the Tampa patients to start as young as 35. In both studies half the patients will be under 60 to see whether the patient's age alters the effectiveness of the procedure.

Olanow warns his patients that they must have realistic expectations. "We need people who are absolutely committed to seeing it through. If a patient is unrealistic and he doesn't have a great result, you won't see him again. We need to be able to follow these patients, especially the bad results, because you've got to know what went wrong as well as what went right."

For Thelma Davis, as she recovers at her home on Long Island after the long flight back from Denver, waiting to see if the transplant worked is going to be tough. "You try to rationalize the situation, the facts, that it's going to take months and may not be a cure. But it's not logical," she says. "I just hope I have the patience." D

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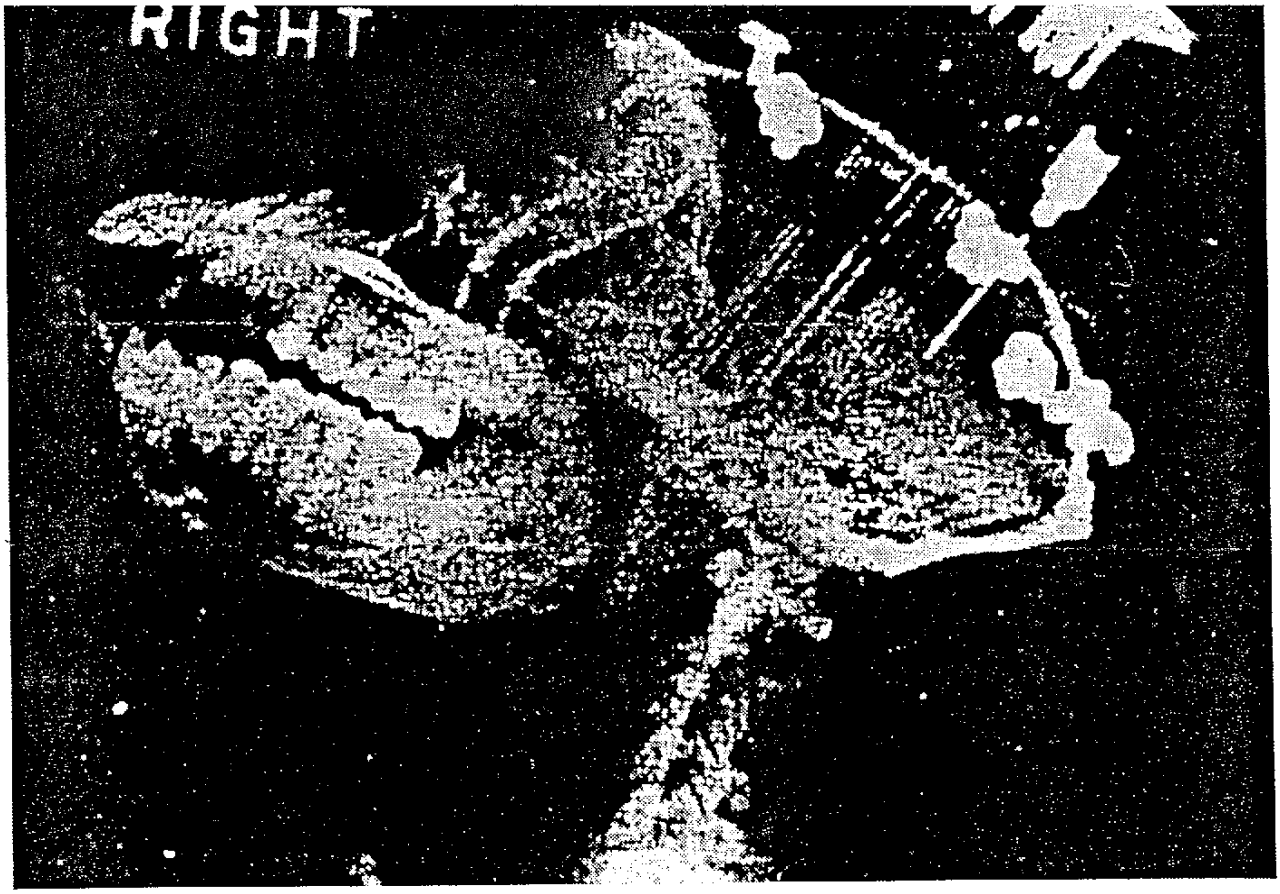

X-ray of a monkey's brain that was monitored via bio-telemetry in the research satellite Biosatellite III in the early 1970s. The x-ray shows the electrodes in the deep brain structures, midbrain reticular formation, centrum medianum, hippocampus and amygdala; the cortical screws were positioned over the motor and visual areas. In the posteria area is a larger electrode. Many scientific stations monitored Biosatellite III. The primary monitoring stations were Rosman, Fort Myers, Quito, Lima and Santiago. (Photo collection: Gruppen)

P.A. LINDSTROM, M.D.

July 27, 1983

Mr. R. Naeslund
Ervallakroken 27
12443 Bandhagen
SWEDEN

In response to your most recent letter regarding the roentgen films I can only confirm that some foreign objects, most likely brain transmitters, have been implanted at the base of your frontal brain and in the skull.

The risk of such implantations is considerable and the risk of chronic infections and meningitis when the implantation has been made through the nose or the sinuses are real issues.

In my opinion, there is no excuse for such implantations if the patient has not been fully informed about the procedures, the purposes, the risks, the method of anesthesia, etc. and then gives a clear written consent.

I fully agree with Lincoln Lawrence, who in his book on page 27 wrote: "There are two particularly dreadful procedures which have been developed. These working and playing with them secretly call them R.H.I.C. and E.D.O.M.--Radio-Hypnotic Intracerebral Control and Electronic Dissolution of Memory."

Many years ago I had some discussions with Delgado. He asked me to apply my ultrasonic technique for his particular purpose of altering patient's behavior but I declined because we had entirely different aims and approaches. However, I found Delgado to be an intelligent but somewhat strange man.

Best wishes!

P. Lindstrom

P. A. Lindstrom, M.D.

PAL/mjt

RADIO 'MATADOR' STOPS WIRED BULL

Continued From Page 1, Col. 5

our understanding of the mind."

"We are in a precarious race," he said, "between the acquisition of many megatons of destructive power and the development of intelligent human beings who will make intelligent use of the formidible forces at our disposal."

Based on His Experiments

Dr. Delgado's contention that brain research has reached a stage of refinement where it can contribute to the solution of some of these problems is based he said, on many of his own experiments.

These have shown, he explained, that "functions traditionally related to the psyche, such as friendliness, pleasure or verbal expression, can be induced, modified and inhibited by direct electrical stimulation of the brain."

For example, he has been able to "play" monkeys and cats "like little electronic toys" that yawn, hide, fight, play, mate and go to sleep on command.

And with humans under treatment for epilepsy, he has increased word output sixfold in one person, has produced severe anxiety in another, and in several others has induced feelings

The New York Times

STUDYING BEHAVIOR: Dr. José M. R. Delgado in his office at Yale University School of Medicine.

Switzerland used a similar set-up to stimulate various cerebral regions in conscious cats. He showed that elect could influence posture, balance, r such basic psych tions as fear and

For some still reason, those tec

those films a of all the an the behavior

This permits tive assessmen social interact quantification havioral profi said. This is portant when modifications i of the group p stimulation of sponse in one animals.

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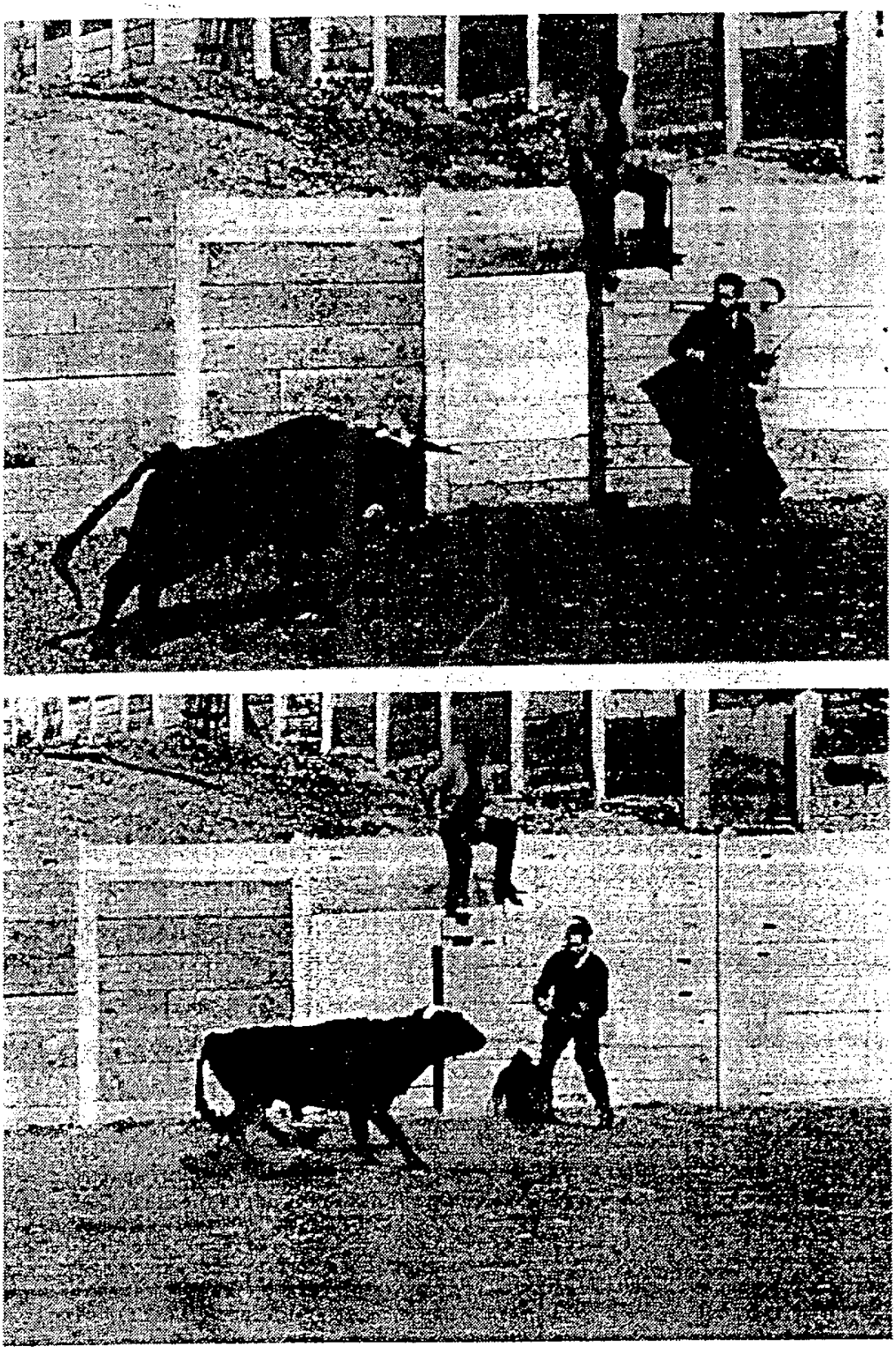
With such Delgado has

¶Monkeys w a button that to the brain member of calms it down animals can b trol one anoth

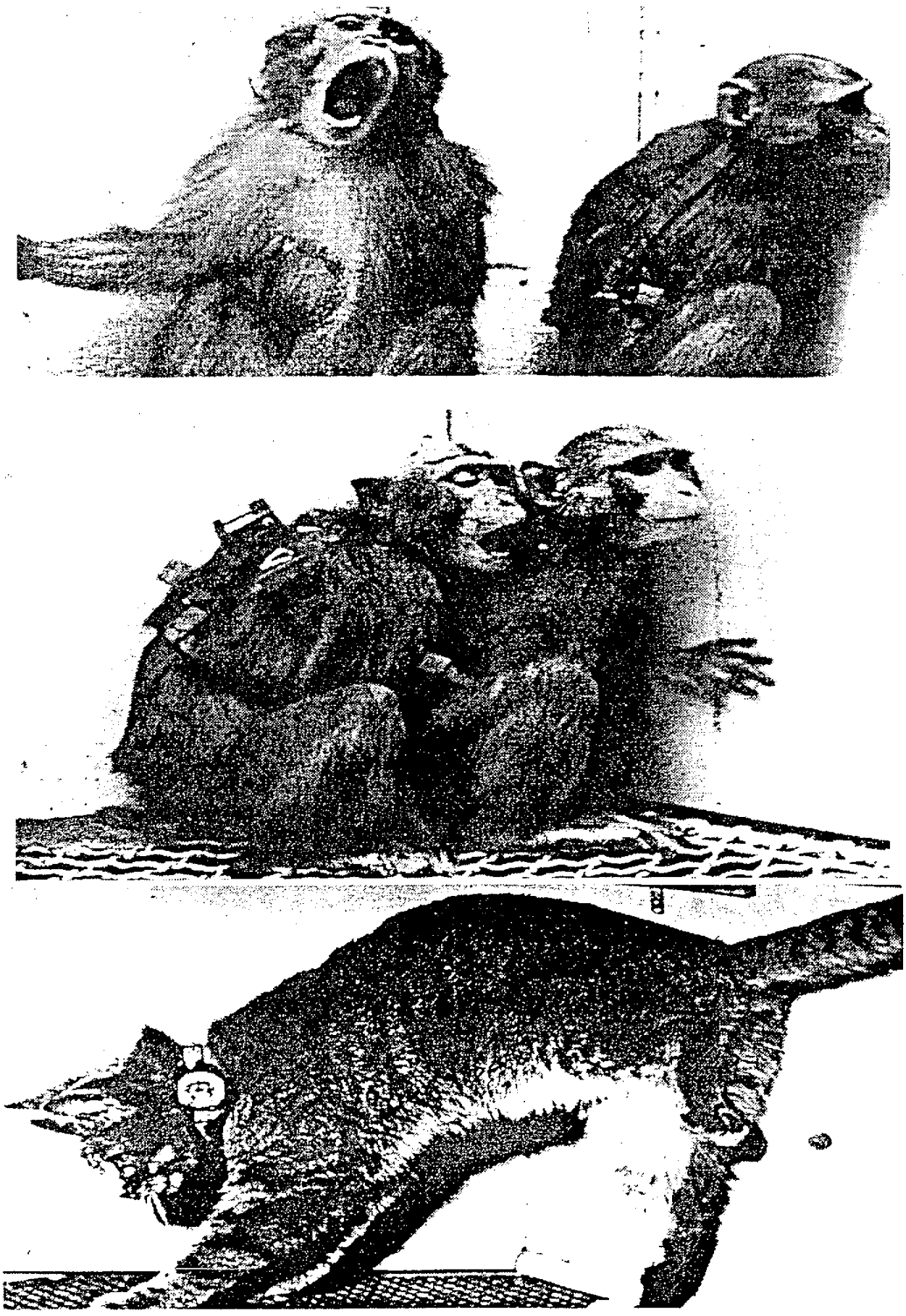
¶A monkey,

Top: 1965 New York Times article on Delgado.

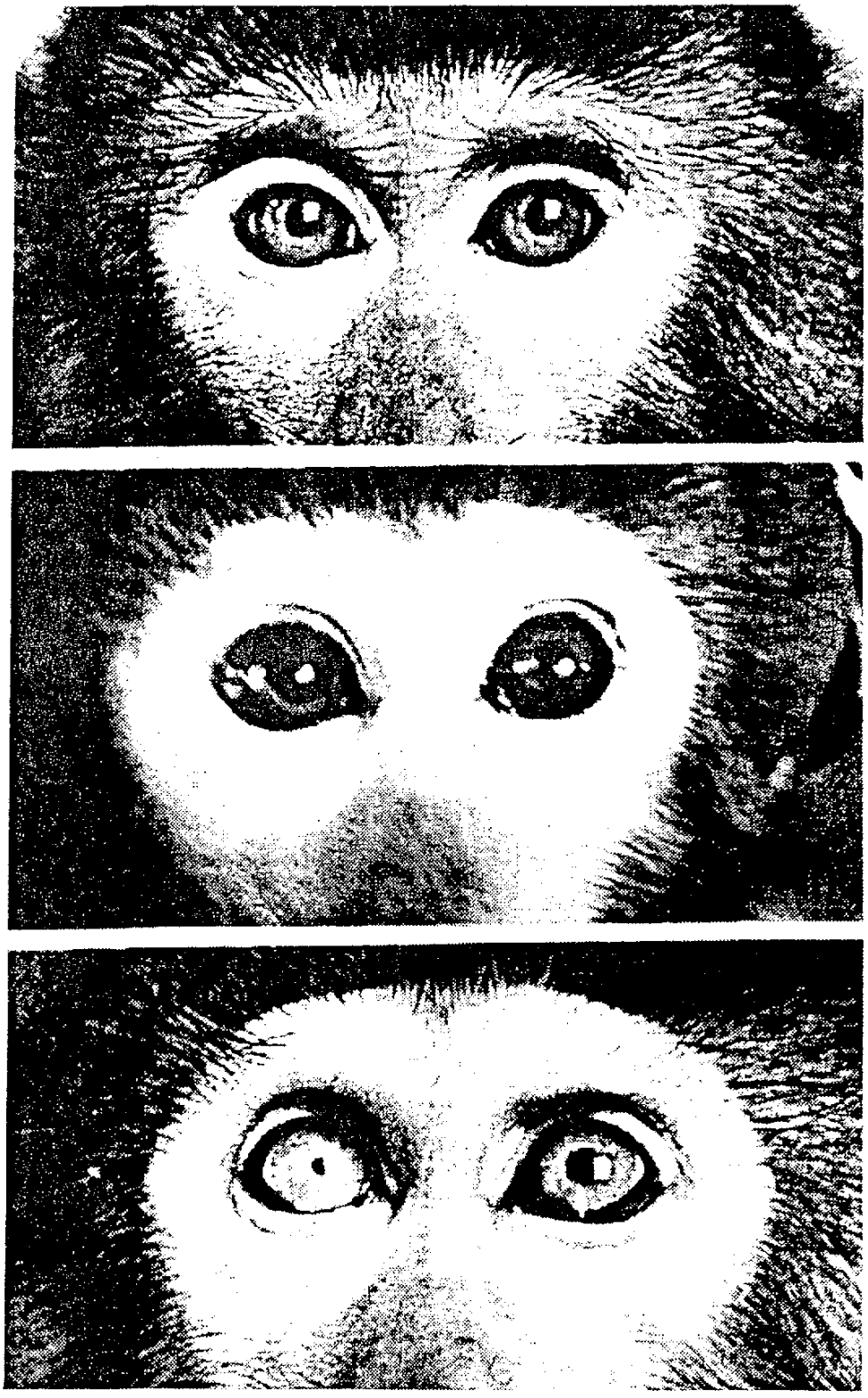
Right: Delgado in 1995. The humanist magazine Free Enquiry described him as "one of the most noted researchers on the brain."



Top: José Delgado of Yale University's School of Medicine faces a charging bull... Bottom: ...and stops it cold, using a "stimoceiver," which sent a radio signal to its brain through an implant. These photographs appeared on the front pages of newspapers around the world, including the New York Times (May 17, 1965).



Above: Delgado's experiments with wired-up monkeys and cats. From *Evolution of the Physical Control of the Brain* by José Delgado, M.D. (1965).



Delgado's experiments with electric stimulation of the brain and the dialation and constriction of pupils with these monkeys. Bottom: Dialation of the left pupil and constriction of the right pupil by stimulation of the hypothalamus.

Above: Two photos of Delgado's mind control implants. 42

...Office in Prescott.)

FDA advisers recommend approval for brain implant to control tremors

ROCKVILLE, Md. (AP) — ieorge Shafer's hands trembled so iolently from Parkinson's disease iat he couldn't button his shirt or :ed himself — until a powerful de-ice implanted deep in his brain cut ff the shakes with electrical shocks.

Scientific advisers recommended nanimously Friday that the Food nd Drug Administration approve the acemaker-like brain implant to help arkinson's patients and other tremor ufferers who get no relief from rugs.

"It is a wonderful miracle," said hafer, 65, of Fort Myers, Fla., hold-ıg out nearly motionless hands. "I ven made a model airplane."

At least 500,000 Americans have arkinson's disease, a degenerative eurological disease where patients uffer uncontrollable shakes, rigid imbs and other worsening symp-oms. About 2 million Americans ave essential tremor, a little-nderstood hereditary disease that auses similar violent shaking but no ther symptoms, said University of Cansas neurologist Dr. William Coller.

The drug L-Dopa helps some Park-nson's symptoms, although its ef-ects wane over time. Only about 40 ercent of essential tremor patients re helped with medicines.

The shaking is so debilitating — eventually destroying patients' ability to work, even feed themselves — that some undergo dangerous surgery to destroy a small part of the brain responsible for the trembling. But the surgery can cause permanent problems with speech, movement and swallowing.

Medtronic Inc. says it has a far less risky solution: "deep brain stimulation." With the Activa system, doctors drill through the skull and implant an electrode into the thalamus, a walnut-sized region deep in the brain. The left side of the thalamus controls movement in the right side of the body, and vice versa.

A wire runs just under the scalp down to the collarbone, where a pacemaker-sized "pulse generator" is implanted. It sends electrical waves — custom set for each patient — to the electrode, which blocks tremors by emitting constant, tiny electrical shocks.

In studies of 120 patients here and in Europe, about half saw their shakes disappear, Koller said. Others had different ranges of improvement; only seven Parkinson's patients were worse a year later.

"I can eat soup for the first time in 14 years," said study participant Maurice Long, 72, of Hutchinson, Kan., who has essential tremor. "I can go out in public and enjoy life."

Unlike surgery, Activa is reversible: Simply turn it off by running a magnet over the chest where the generator is implanted. Long did so Friday, and his hands immediately began shaking. Another swipe of the magnet to turn the system back on, and 10 seconds later his hands were steady again.

The implant doesn't help Parkinson's patients as much, the FDA said.

February 1, 1978 page 7

CIA-university connections told by probe

More than 80 colleges did CIA research

U.S. Senate investigation has vealed that more than 80 lleges and universities did search on their campuses hich was secretly funded by CIA.

This research involved work hich ranged from mere in- mnia studies to the MK- LTRA project, a covert pro- am with drug and mind ontrol experiments.

Amid the doubt which sei- d around university research partments, 26 colleges and iversities publicly acknow- ged their involvement.

Harvard University went to r as to issue a precedent- tting list of guidelines last ay in an effort to curb secret ntracts between the Harvard esearch community and the S. Intelligence Agencies.

The Harvard move has its ots deeply embedded in a ng and muddy history of IA cooperation with the merican academe. Classified search on campus goes back years to California where work made its first an- pearance under the guise of the Manhattan Project — a crash program designed to develop the atomic bomb in 1942 — and which enlisted the spon- sorship of the University of California at Berkeley.

Early classified research oc- curred on country campuses. Massachusetts Institute of Technology (MIT) housed a radar development center during World War II and worked with Columbia, the California Institute of Tech- nology, Stanford, Michigan, Pennsylvania, John Hopkins and Cornell in its Lincon Lab. The Lincon Lab was involved in secret military research.

In 1977 these universities all acknowledged that they were involved in the MK-ULTRA project.

In the early 1950s as in 1977 there was little resistance from the universities, faculty or students to the presence of classified CIA work on cam- pus.

The McCarthyism of the 50s prevented any progressive ad- ministrator from speaking out about CIA involvement for fear of losing their jobs.

Today, many universities receive millions of dollars for research from, and fear losing federal funding.

Some resistance to the secret research came from the Uni- versity of California in 1966 when the university issued an 8 point program that recom- mended that "No contracts for research be accepted if they (were) classified or restricted, except in cases involving na- tional safety."

That final clause — left wide open in interpretation by the CIA — was used to justify its domestic surveillance during the height of the anti-war movement as late as 1974.

Universities in the California system issued blackmail resolu- tions to repudiate. But the incipient sign, research and these early moves were plagued with ambiguous guidelines strung together with loopholes in two presidential system

Johnson said "no federa cy . . . should provic covert financial assist support, direct or indir any of the nation's c tional or private volu organizations." The sta was an acceptance of a mendation of a com headed by Undersecret. State Nicholas Katzenba CIA director Richard

The CIA then issue parently hollow internal statements to implement son's policy, stating "wherever possible" the C would be identified alon its sponsorship. But the clearly retained the opti entering into secret cor with colleges and unive after they obtained perm from the Deputy CIA Di for Administration.

More importantly th striction didn't bar arr ments between the Agenc individuals. As a result CIA stepped up contac with research "consultan

FROM THE "BRUIN"- U.C.L.A. SCHOOL NEWSPAPER

SCI-FI COMES TRUE

Mind-Reading Machine Tells Secrets of the Brain

BY NORMAN KEMPSTER
Times Staff Writer

WASHINGTON—In a program out of science fiction, the government is developing mind-reading machines that can show, among other things, whether a person is fatigued, puzzled or daydreaming.

If the project lives up to its promise, the machines could be in use in airplane cockpits before the end of this decade to warn a pilot that his mind is wandering and he is failing to perform essential duties.

Since 1973, a little-known Pentagon agency has been studying ways to plug a computer into an individual's brain waves—or electroencephalographs (EEG) signals in the scientist's lexicon.

The Advanced Research Projects Agency says the $1 million-a-year program has passed its initial laboratory tests and is ready for determination of its military uses.

Scientists working under agency contracts at the University of Illinois, UCLA, Stanford, Massachusetts Institute of Technology and the University of Rochester and in laboratories at other facilities have been able to determine an individual's alertness from his brain waves. They can tell also how he perceives colors and shapes.

But there may come a day when the EEG will be used to perform far more bizarre tasks.

At UCLA, scientists are working on the use of the EEG to control machines. To give it a trivial application, a spectator could use thought waves to make a table levitate. To give it the serious application envisioned by the Pentagon, a gunner

Please Turn to Page 8, Col. 1

Part I—Sat Mar 20, 1976 Los Angeles Times

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puters as Mind Readers

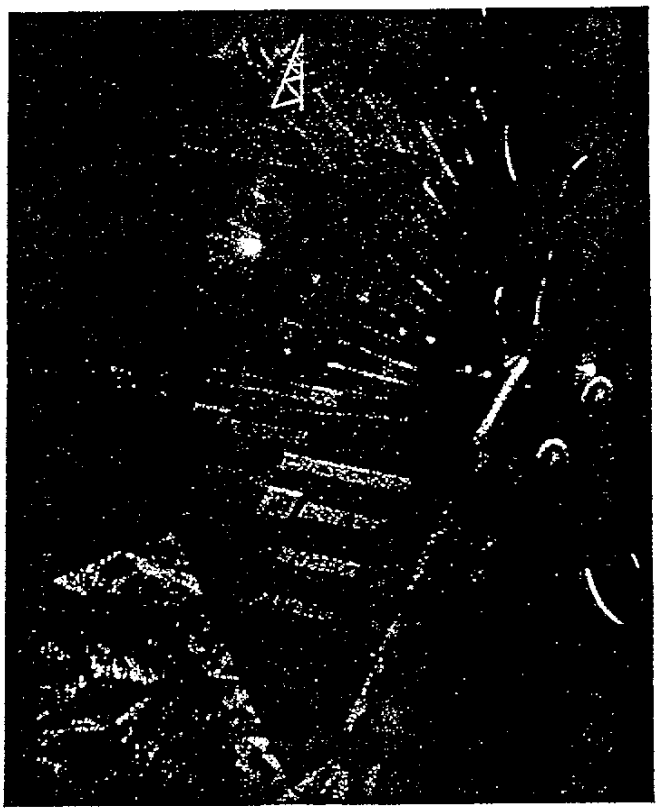
Technology: In the future (maybe), your PC will be connected directly to your brain

THE MARRIAGE OF MAN (OR WOMAN) and machine is one of the most intriguing images in science fiction. From the Bionic Woman to RoboCop, these creatures are blessed with bodies that just won't quit and brains at the top of the evolutionary scale. You ain't seen nothing yet. To some futurists, the most alluring possibility is what science fiction calls "wetware," the linking of the human brain and computers. The word "wet" refers to the brain; it's a play on hardware (computer equipment) and software (computer programs). In this vision, humans would be connected directly to the machines. The computer could literally read your brain waves, your thoughts—all your thoughts, mundane and majestic. Need a phone number for a friend named Joe? There it is on the screen, called up from your private database, which also lists Joe's other vital stats. That novel in your head? It's all typed out for you on the screen, right down to that embarrassing little fantasy you'd prefer no one knew about. (The name of this genre? What else but stream of consciousness?)

Virtual telepathy is probably generations away (if it ever happens), but researchers are currently experimenting with devices that might someday evolve into a kind of wetware. Scientists are trying to create computer images through electrodes attached to the brain, arm or facial muscles. These systems work by translating the electrical signals generated by the nervous system into patterns that the computer can read. The research helps increase computer access for disabled people who could substitute a blink of an eye or the twitch of a cheek for fingers on the keyboard.

A handful of entrepreneurs are working on ways of using this technology to sell products to a larger audience. None of these is real wetware—or even close to it. But they're appealing to true wetware believers.

The BioMuse computer from BioControl Systems, a company in Palo Alto, Calif., processes signals from muscles, eyes and brains, according to cofounder Anthony Lloyd. His partners are an engineer and a neurophysiologist. An armband or sweatband picks up the electrical signals. The BioMuse isn't reading the user's mind in the science-fiction sense; it turns the body's electrical impulses into digital data that the computer understands. Ultimately, the company hopes, the BioMuse could allow users to control the computer through thinking.



The computer could interpret thought patterns as different commands, depending on the software that's used with it, Lloyd says.

Another small company, IBVA Technologies, Inc., in New York, says its Interactive Brainwave Visual Analyzer transforms brain waves, again collected through a device that looks like a headband, into many forms, including music. As you become angry, for example, your brain waves change and the notes corresponding to particular patterns shift as well. It's a cousin of biofeedback, says Helen Meschkow, IBVA's sales manager. She says in future incarnations, the machine might be used to turn your whole house into a kind of mood ring. If you come home feeling stressed, the machine would translate that tension into a command to lower the lights and turn on soothing music.

MindSet was developed by the Aqua-Thought Foundation, a California research organization dedicated to studying interaction between humans and dolphins, and Monsoon Software of Baltimore. It draws maps of a user's brain waves on a computer screen. Sunil Gupta of Monsoon Software, who helped create MindSet, says it sells for around $2,000. He thinks devices like his could eventually be used to control computer functions. Someday, Gupta predicts, interaction between humans and computers will be "transparent"—in other words, there will be no artificial barriers such as a keyboard. Machines and humans will interact using a range of senses—auditory, visual and tactile.

Brain waves: In March, Advanced Neurotechnologies in Colorado Springs announced its "BrainLink" computer-interface system. After a two-week, $6,000 training session, users can learn to control their brain waves, claims founder Richard Patton. The user studies a pattern on the screen and then concentrates so he can reproduce that pattern.

If some of this stuff sounds on the edge, consider the subculture of neurohackers described by writer Gareth Branwyn in an article on wetware research in Wired magazine. "Science fiction has fed us so many images of technologically souped-up humans that the current work . . . seems almost retro by comparison," says Branwyn. The neurohackers can't wait for the future, he says; they've decided to "take matters into their own heads"—sometimes by sending electrical signals directly to their brains through homemade devices.

The early forms of wetware seem especially primitive compared with the brain itself, which is far more complicated than even the most powerful supercomputer man could attach to it today. "We have this gigantic power of memorizing visual images," says Emilio Bizzi, head of MIT's department of brain and cognitive sciences. "No machine could come close to storing a fraction of the images in our head." On the other hand, someday a version of wetware might remind you where you left your car keys so you can concentrate on more important issues—like where you want to go.

BARBARA KANTROWITZ

ILLUSTRATION BY GLENN MITSU

The *San Francisco Chronicle* (Feb. 5, 1974) tells of a study to learn a person's thoughts through the use of a small computer that sorts electrical signals picked up by eight electrodes fastened like a crown around the scalp. This clipping shows how we can manipulate the electromagnetic energy of humans and animals.

This clipping and the paragraph below show how we can manipulate the electromagnetic energy of humans and animals.

Other studies are being conducted at UC San Diego, UC San Francisco, UCLA and other Ivy League universities, as well as in Spain, whereby scientists are able to stimulate the brain of monkeys (through radio frequencies/electrical stimulation of the brain) and inhibit their movements, or project or inhibit thought.

Brain Waves May Tell What's On Your Mind

By Charles Petit

A study is underway at the Langley Porter Neuropsychiatric Institute here to learn if brain waves can reveal a person's natural aptitudes and intelligence — and possibly a person's thoughts.

Crucial to the study is the use of a small computer that sorts electrical signals picked up by eight electrodes fastened like a crown around the scalp.

With the computer, researchers can discover where in the brain various types of high frequency, low energy brain waves originate.

Scientists think that brain waves, instead of being non-functional side effects of cerebral electrical activity, may actually be carrying messages from one place in the brain to another.

Dr. Enoch Callaway a psychiatrist, is directing the research with a grant from the Office of Naval Research.

The Navy's interest, he said, is mainly to see if computer analysis of brain waves could be useful in determining the aptitudes of new recruits.

Callaway described the project during this week's "merger celebration" marking the transfer of Langley Porter from the state Department of Health to the jurisdiction of the University of California Medical Center, its neighbor on Parnassus Heights for 20 years.

During an interview, the 50-year-old Callaway said it was 100 years ago that a German psychiatrist named Hans Berger first discovered brain waves. Berger hoped the rhythmic energies of the mind would reveal the secrets of extrasensory perception.

However, the use of the waves has been largely restricted to electroencephalograms that detect irregularities in brain waves — a means of diagnosing organic brain disease.

Considerable attention has also been paid lately to the conscious control of low-frequency brain waves, the most obvious example being "alpha wave bio-feedback" techniques.

However, Callaway's interest lies deeper in the brain where fleeting, high frequency waves of "electrical potential" flicker in curtains across the brain, often bypassing the neural pathways, usually thought to transmit the mind's internal messages.

Callaway is using computer techniques developed by a partner in the research, Peter Harris, a senior computer programmer.

Other things volunteers are asked to stare at flashing lights, or lights that change color, read a book or stare at a picture, all while their brains are being monitored, said Harris.

By running tests repeatedly, the computer can pick out which electrical signals always accompany a specific stimulus.

So far Callaway and others in the field can distinguish between a person looking at a green light and one looking at a red light. They have also found that quickness of response is in some unexplained way related to IQ as measured with standard intelligence tests.

In addition, he has found that concrete, analytical thinking is accompanied by increased electrical activity in the left hemisphere of the brain, while intuitive and abstract thought brings the right hemisphere into dominance.

What it adds up to, said Callaway, is the possibility of charting areas of dominance in individual brains and correlating them with mental skills displayed by those individuals.

Further in the future is the possibility of monitoring the actual messages — if they exist — being transmitted across the brain. It may then be possible to use electronics to tell what a person is thinking, he said.

Callaway admitted that the Orwellian possibilities "are undeniable." Among the misuses possible, although far in the future, would be government thought control.

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See the movies *LOOKER* by Michael Creighton, M.D., and *D.A.R.R.E.L.* (obtained from any video rental store).

Editor's Note: *All the aforementioned refer to Electrical Stimulation of the Brain, etc., See Bibliography for publishers and dates.*

Just What the Eye Picks Up

Perception Research Services Inc.

What really catches her eye? The lab can tell.

PERCEPTION Research Services, a market research company in Englewood, N.J., has come up with an electronic eye-tracking system that tries to measure exactly which parts of an advertisement or a product's package is attracting the attention of consumers.

To measure packaging's effectiveness, for instance, a volunteer of the sort that the product should appeal to — a woman in her 30's, say — sits in front of a television screen and looks at shelves stocked with products.

A computer, guided by a monitor hidden behind the screen, signals a generator to transmit an invisible beam of light into her pupils. The light, unnoticed by the volunteer, follows her pupils as they move across the screen. Sensitive light-detecting equipment picks up the beam's reflection and records it as a continuous road that her eye is traveling.

In a back room, researchers at their own screens follow a white dot that corresponds to her visual path. The beam's reflection is also stored in the computer as a series of coordinates, which are plotted in relation to the product's name, the ingredients' list and other parts of the package.

Elliot Young, the president of Perception Research, said, "It will tell you where people started to look, how much time they spent looking at any given spot, whether they went back to re-examine anything and, most important, what they missed."

N.Y. Times, p. F-9, June 9, 1991.

Table 1: An example of EMF Brain Stimulation

Brain Area	Bioelectric Resonance Frequency	Information Induced Through Modulation
Motor Control Cortex	10 Hz	Motor impulse coordination
Auditory Cortex	15 Hz	Sound which bypasses the ears
Visual Cortex	25 Hz	Images in the brain bypassing the eyes
Somatosensory	9 Hz	Phantom touch sense
Thought Center	20 Hz	Imposed subconscious thoughts

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omagnetic emission from the brain
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otor command, auditory event and
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The EMF emission from the brain
nt thoughts, images and sounds in

ransmitted Brain Stimulation as

auditory cortex (bypassing the ears) and transmitting faint images to the visual cortex (bypassing the optic nerves and eyes). The images appear as floating 2D screens in the brain.

Two-way electronic Brain Link has become the ultimate communications system for CIA/NSA personnel. Remote neural monitoring (RNM, remotely monitoring bioelectric information in the human brain) has become the ultimate surveillance system. It is used by a limited number of agents in the US Intelligence Community.

11. Interactions with the Nervous System

11.1 Central Nervous System

11.1.1 *Introduction*

Absorption of RFEM energy is often associated with elevations of temperature in the absorbing material. For most mammalian tissues, this added thermal burden may amount to 70 percent or more of the metabolic heat production (1 to 3 W/kg) before a significant rise in tissue temperature occurs (>0.1 °C), due to efficient heat removal by adaptive physiological mechanisms that characterize endothermic species (see Section 15). Secondary effects of RFEM fields attributable to elevated temperature have been well categorized and in general differ little from effects of hyperthermia induced by other means (Presman, 1968; Michaelson *et al.*, 1975). However, it is now clear that some tissue interactions with RFEM fields that produce temperature increments orders of magnitude less than 0.1 °C result in major physiological changes that cannot be attributed to elevated temperature *per se*. The need for quite different models of transductive coupling of these weak fields relates to "windows" in frequency and incident energy, which characterize these interactions in brain and some other tissues, and to the very weak oscillating electric gradients in tissue shown to be effective in modifying cell functions by mechanisms that appear to "amplify" the triggering field. These amplification mechanisms may be based on nonequilibrium processes, with long-range, resonant, molecular interactions. They are in the class of "cooperative" processes and have been widely recognized as important in immunological and endocrine reactions, as well as in neurobiological excitation. A strong presumptive site for their occurrence is at the surface of the cell membrane.

11.1.2 *Observed Biological Sensitivities to Weak Environmental RFEM Fields*

Biological effects of environmental oscillating electric fields are related to the electric gradient they induce in the tissue. This gradient will be determined by the degree of coupling between the field and the tissues. At frequencies below 300 Hz, electrical gradients at the surface of a body in air will be determined by the capacitance to free space (Barnes *et al.*, 1967), which is a function of the body's mass and shape. This capacitance, C, far from ground, is:

$$C = 4\pi\epsilon_0 r, \tag{11.1}$$

where ϵ_0 is the dielectric permittivity of free space and r is the distance to the point of interest. For a spheroidal model, this equation gives a capacitance of 50 pf for $r = 0.5$ meters. A typical value of specific impedance of brain tissue at ELF is 300 Ω cm (Freygang and Landau, 1955). If the induced electric gradient were uniform throughout a body having the electrical characteristics of brain tissue (a reasonable assumption for order-of-magnitude calculations), the expected tissue gradient for a 10-Hz environmental field of 10 V/m would be only 10^{-6} V/cm. This value agrees well with a total current measurement induced by such a field in a model of a monkey head (Valentino, 1972).

However, to appreciate fully the relation of these weak tissue components of ELF fields to possible excitatory effects in brain tissue, it must be remembered that nerve cells are enclosed in an extracellular fluid with a conductivity ~1000 times higher than that of the cell membrane. This fluid, thus, effectively shunts the cells it surrounds, providing a preferred pathway for field-induced currents. Extracellular fluid typically accounts for about 20 percent of the tissue volume and has a specific resistance from 4 to 20 Ω cm. Membrane resistance per unit area for different types of cells (Coombs *et al.*, 1959) ranges from 1000 to 5000 Ω/cm^2. Thus, only ~1/1000 of the induced extracellular current would be expected to flow through the cell membrane and, hence, to contribute directly to excitation of the nerve cell. For the 10-Hz, 10-V/m field cited above, the total tissue current is of the order of 10^{-8} A/cm^2. The expected transmembrane component entering the cell would be a mere 10^{-11} A/cm^2 for production of an impulse. Even though membranes of some nerve cells (in contrast to fibers) have been found two or three orders of magnitude more sensitive, there is a gap of about 10^5 between the magnitude of tissue components of these environmental fields and the usually accepted thresholds for excitation of nerve fibers. Nevertheless, evidence to be cited has shown that these weak-field gradients produce a variety of behavioral, physiological and chemical responses when they are within certain frequency and amplitude bounds.

A second class of windowed interactions with clear effects in brain tissue occurs in RFEM fields that are amplitude or pulse modulated at frequencies below 1000 Hz and particularly in the range between 1

to 20 Hz. Unmodulated fields do not produce these effects. Here, the field coupling to tissue is much stronger, and, for body dimensions from 0.05 wavelength to lengths that approach resonance, energy absorption is proportional to the square of the frequency (f^2) (Johnson *et al.*, 1977). For carrier frequencies between 150 and 450 MHz, behavioral and physiological effects have been observed under induced brain gradients in the range 10 to 100 mV/cm (Bassen *et al.*, 1977). For this band of carrier frequencies, gradients at these levels are induced in the brain of most mammals, including man, by incident fields at 0.1 and 1.0 mW/cm^2 (electric gradients in air approximately 19 and 60 V/m). These gradients have the same range of amplitudes as the intrinsic, low-frequency oscillations of the electroencephalogram (EEG) in brain extracellular fluid, when measured over the dimensions of a single neuron.

The search for "windowed" biological effects has centered on these two types of interactions; one involving direct interaction with low-frequency fields, and the other induced by RFEM fields amplitude modulated at low frequencies. Two "windows" have been detected, one involving ELF gradients of 10^{-6} to 10^{-5} V/cm, the other in ELF- or LF-modulated RF and microwave fields at 10^{-1} to 10^{-2} V/cm. A 50-V/m, 16-Hz field in air induces a tissue gradient of about 10^{-5} V/cm, and tissue gradients of 10^{-1} V/cm as induced by a 16-Hz field would require a gradient in air of 500 kV/m. It would thus be very difficult to achieve EEG-level gradients in tissue exposed to simple low-frequency fields (Bawin *et al.*, 1978b).

A wide range of effects has been reported in tissue components under environmental ELF fields between 10^{-7} and 10^{-8} V/cm. They include navigation and prey detection by sharks and rays, bird navigation, altered daily biological rhythms in man and birds, and subjective estimates of time by monkeys (Table 11.1). These sensitivities contrast sharply with the membrane potential of nerve cells. The "resting" potential is about 10^5 V/cm across the 4-nm dimension of the lipid bilayer or plasma membrane that forms the "backbone" of cell membranes. Excitation of nerve-fiber terminations (synapse) on the membrane's surface may depolarize it by about 10^3 V/cm. Thus, electric gradients in the fluid around brain cells (10^{-1} V/cm), with amplitudes approximately equal to those of the EEG, have usually been considered to have no role in excitation of brain neurons, and have been regarded merely as "the noise of the brain's motor." Recent evidence now strongly indicates a modulatory role for these fields, based on behavioral, neurophysiological and neurochemical evidence cited below. However, even these EEG-level tissue gradients are approximately six orders of magnitude greater than those associated with the behavioral effects listed in Table 11.1.

TABLE 11.1—*Bioelectric sensitivities*

Species	Function	Tissue gradient	Imposed field
		V/cm	
Sharks and Rays	Navigation/Predation	10^{-8}	DC to 10 Hz
Birds	Navigation	10^{-7}	0.3 Gauss*
Birds	Circadian Rhythms	10^{-7}	10 Hz, 2.5 V/m
Monkeys	Subjective Time Estimation	10^{-7}	7 Hz, 10 V/m
Man	Circadian Rhythms	10^{-7}	10 Hz, 2.5 V/m
	Cell and Tissue Neuroelectric Gradients		
	Membrane Potential	10^5	
	Synaptic Potential	10^3	
	Electroencephalogram	10^{-1}	

* Equal to 30 microtesla (μT) in the international system (SI) of units.

11.1.2.1 *Behavioral Effects of ELF Fields.* There is strong evidence that sharks and rays navigate and detect prey by environmental electric gradients as weak as 10^{-8} V/cm in the spectrum below 10 Hz (Kalmijn, 1974). Parker and van Heusen (1917) noted that nibbling responses in the catfish are elicited by a total current of approximately 1.0 μA between two electrodes about 2.0 cm apart. Rays can be trained to seek a food reward in a circular tank in which the earth's magnetic field is an essential cue (Kalmijn, 1978). Calculated electric gradients in tissue based on the rate of the animal's movement through the natural magnetic field are 0.5 μV/cm. These responses to movement faded out in magnetic fields weaker than the natural levels and were not observed in fields two orders of magnitude greater, indicating a magnetic-intensity "window." These low-frequency electric and magnetic perturbations are sensed by tubular electroreceptors that open on the skin of the head and are filled with a jelly-like substance. The walls of this ampullary canal have an extremely high resistance per unit area (6 MΩ/cm^2) and the core of the canal has a low specific resistance (31 Ω cm). The canal, therefore, exhibits ideal cable properties for DC potentials and for low-frequency electric oscillations. The low-pass frequency characteristics of the ampullary system give it an effective upper-frequency limit of about 10 Hz.

Human and avian circadian rhythms are lengthened in shielded environments that exclude natural and artificial electric fields. These rhythms return toward a 24-h periodicity in the presence of a 10-Hz, 2.5-V/m, square-wave field (Wever, 1968, 1977). Monkeys exposed to

7-Hz, 10- or 56-V/m fields shorten subjective estimates of a 5-s interval by about 10 percent (Gavalas *et al.*, 1970; Gavalas-Medici and Day-Magdaleno, 1976). There was an apparent threshold for 7-Hz fields at strengths between 1 and 10 V/m, but similar fields at 100 V/m were without effect, again indicative of a windowed interaction. Similar trends were noted in independent studies at 45 Hz and were statistically significant in the first series of exposures, but not in the second (de Lorge, 1973, 1974). Measurements of induced currents in models were in general agreement with calculated tissue gradients of the order of 10^{-7} V/cm in both circadian-rhythm and time-estimation experiments.

Although these data suffer from some difficulties in replication or in a lack of duplicate studies at this time, they show a general consistency in evidence of a tissue threshold between 10^{-7} and 10^{-8} V/cm for a variety of biological effects of ELF fields in fish, birds and mammals. There is also evidence to support some windowed interactions, with a decline in some responses for fields two orders of magnitude larger, a finding consistent with the electrochemical observations cited below.

11.1.2.2 *Neurophysiological Effects of Modulated RFEM Fields.* VHF or UHF fields at ~1.0 mW/cm^2 (61 V/m) induce an EEG-level gradient in brain tissue and may be tested for effects on brain function, with and without ELF amplitude modulation at frequencies in the EEG spectrum.

A persistent component in EEG spectral analyses at the pulse repetition frequency (PRF) of a RFEM field following irradiation has been reported by Servantie *et al.* (1975). Under a 3.0-GHz field pulsed at 500 to 600 pps (1.0-μs pulse width, average power density 5.0 mW/cm^2), rats exposed for 10 d showed a distinct spectral peak in the EEG at the PRF, which waxed and waned in cycles lasting several minutes. Persistent EEG changes occurred for several days in rabbits after exposure for 2 h daily for 4 to 8 weeks to a 5.0-MHz field amplitude modulated at 14 to 16 Hz (Takashima *et al.*, 1979). Fields at amplitudes of 90–150 V/m enhanced EEG activity at 10 to 15 Hz, and 500 V/m fields augmented 4- to 5-Hz waves. Amplitude modulation at 60 Hz was without effect. No detectable heating of the brain occurred during these exposures.

Bursts of EEG waves occurring in various brain nuclei of the cat as conditional responses to a flash of light (and thus constituting a learned response) were more frequent in the presence of a 147-MHz, 0.8-mW/cm^2 field that was amplitude modulated at the same ELF frequency as the EEG burst (Bawin *et al.*, 1973). Moreover, in the presence of the modulated RFEM field, but in the absence of punishment for failure to make a correct response (so-called "extinction trials"), the decline of performance to pretraining levels occurred slowly over 45 to 60 days. Without the RFEM field, extinction occurred in 5 to 7 days. Even though this study was performed with metal electrodes that contacted the brain, spectral analysis of EEG records between wave "bursts" disclosed no artifactual rectification of imposed fields at the brain-electrode interface.

11.1.2.3 *Windowed Responses of Calcium-Ion Binding in Brain Tissue to ELF, VHF and UHF Fields.* As discussed below, calcium ions are essential in transductive coupling of a wide range of immunological, endocrinological and neurobiological events at cell-membrane surfaces. The fluid surrounding cells contains 2.0 mM calcium, whereas typical concentrations in the general cytoplasm within cells are far lower, around 10^{-4} mM. Effects of RFEM fields on calcium binding in cerebral tissue are believed to occur at cell membrane surfaces (Bawin *et al.*, 1978a). Calcium ions trigger their own release from intact cerebral cortex of cats in a highly nonlinear fashion, strongly indicative of a cooperative process (Kaczmarek and Adey, 1974). Weak oscillating electric gradients no larger than those of the EEG (50–100 mV/cm) increase efflux of calcium and the amino acid transmitter, gamma-aminobutyric acid (GABA), from cat cerebral cortex by almost 20 percent (Kaczmarek and Adey, 1973). These two findings have challenged accepted views that oscillating extracellular electric gradients as weak as the EEG play no part in neuronal excitability. This view is further challenged by the following evidence on RFEM-field sensitivity of brain tissue.

11.1.2.3.1 *Effects of Sub-ELF and ELF Fields.* Freshly isolated chick and cat cerebral tissues exposed to sinusoidal electric fields at 1, 6, 16 and 32 or 75 Hz (electric gradients in air of 5, 10, 56 and 100 V/m) exhibit a general trend toward a reduction in release of preincubated $^{45}Ca^{2+}$ (Bawin and Adey, 1976). Both frequency and amplitude sensitivities were observed. Maximal decreases of 12 to 15 percent occurred at 6 and 16 Hz. Thresholds were ~10 and ~56 V/m for chick and cat tissues, respectively. Similar, but nonsignificant trends, occurred during other exposures at 5 and 100 V/m. Tissue gradients were not measured, but estimates are of the order of 0.1 μV/cm. All results were statistically compared with matched samples of controls. Thus, the efflux was clearly windowed in both frequency and amplitude.

11.1.2.3.2 *Effects of Weak VHF and UHF Fields Modulated with ELF.* Similar frequency and amplitude windows have been observed in chick cerebral tissue exposed to VHF and UHF fields amplitude modulated with sub-ELF. Cerebral hemispheres of neonatal chicks

first incubated in a physiological medium containing $^{45}Ca^{2+}$ were then washed in a non-radioactive solution. They were then irradiated in a 147-MHz, 0.8-mW/cm^2 field, sinusoidally amplitude modulated at a depth of 80 to 90 percent at frequencies from 0.5 to 35 Hz. Unmodulated fields and modulation frequencies at 0.5 and 3 Hz did not induce a significant change in $^{45}Ca^{2+}$ efflux. In contrast, there was a progressive and statistically significant increase in $^{45}Ca^{2+}$ efflux at frequencies from 6 to 16 Hz. The response decreased progressively at higher frequencies from 20 to 35 Hz. Brains treated with 10^{-4} M sodium cyanide prior to $^{45}Ca^{2+}$ incubation and irradiation responded identically to unpoisoned tissue, indicating that the response was not dependent on integrity of cytochrome respiratory enzyme systems (Bawin *et al.*, 1975). These experiments were confirmed independently by Blackman *et al.* (1979), who also observed the modulation frequency "window" between 9 and 16 Hz. They also observed that these effects were only statistically significant at incident power densities of ~1.0 mW/cm^2. This power-density window has been confirmed for chick cerebral tissue exposed to a 450-MHz field, sinusoidally modulated at 16 Hz (Bawin *et al.*, 1978a). In the latter experiments, a statistically significant increase in $^{45}Ca^{2+}$ efflux occurred only at 0.1 and 1.0 mW/cm^2 and not at 0.05 and 5.0 mW/cm^2. Measurements showed tissue gradients of the order of 100 mV/cm at incident fields of 1.0 mW/cm^2.

11.1.2.3.3 *Evidence on the Site and Mechanisms of Transductive Coupling of Fields in Brain Tissue.* Attempts to evaluate the role of H^+ and HCO_3^- ions in controlling $^{45}Ca^{2+}$ movement in cerebral tissue and to identify more accurately the probable site of tissue coupling of the RFEM field have been reported by Bawin *et al.* (1978b). Addition of H^+ ions sharply enhanced $^{45}Ca^{2+}$ efflux in the presence of the UHF field, but was without effect on the non-stimulated efflux, indicating a role for H^+-ion binding in these field effects, perhaps in accordance with the model of competitive H^+-Ca^{2+} binding on membrane-surface macromolecules originally proposed in Pauling's laboratory (Bass and Moore, 1968), or perhaps in terms of proton tunneling across phase boundaries at the margins of cell-surface, fixed-charge domains (Adey, 1981a). The $^{45}Ca^{2+}$ efflux was sharply decreased following omission of HCO_3^- ions. This decrease is unlikely to be due to inhibition of movement of Ca^{2+} ions into mitochondria and other cell organelles because the bicarbonate concentration was only 2.4 mM in the control medium. Nor can the reduced efflux be explained by increased calcium entry into the cell, because the effect persisted in the presence of 0.5 mM La^{3+} and was enhanced at a higher concentration of this ion. On the other hand, inhibition of inward Ca^{2+} currents in the absence of HCO_3^- ions could result in decreased transmembrane calcium exchange, followed by reduced intracellular Ca^{2+} efflux. This model would not explain evidence from the same study that response to the UHF field occurred in lanthanum-treated tissue, with the response probably mediated in the extracellular compartment.

Treatment of cerebral tissue with lanthanum prior to testing the effects of the UHF field on $^{45}Ca^{2+}$ efflux has proved a powerful tool in localizing at least one major class of these field interactions at the cell surface and in the intracellular space (Bawin *et al.*, 1978a). La^{3+} ions block the movement of Ca^{2+} ions either inward or outward across the cell membrane. Therefore, changes in $^{45}Ca^{2+}$ efflux that persist after La^{3+} treatment may be presumed to occur at sites located in the fluid surrounding cerebral cells. Addition of La^{3+} to the bicarbonate-free solution described above restored electrical responsiveness, but this response to the 16-Hz-modulated, 450-MHz field decreased (instead of increasing) $^{45}Ca^{2+}$ efflux. This response exhibited the same windowed specificity to field intensity observed previously in tissues in normal physiological solution (Bawin and Adey, 1976; Bawin *et al.*, 1975), with a stimulated decrease occurring only around 0.75 mW/cm^2 but vanishing at higher and lower field intensities. Together, these findings support the hypothesis that a limited number of extracellular cationic binding sites is involved in the transduction of weak, extracellular electrical events. Low-frequency, weak, extracellular electric gradients may be transduced in a specific class of extracellular negative binding sites that are normally occupied by calcium ions and are susceptible to competitive hydrogen-ion binding.

Studies of cerebral synaptosome fractions exposed to a 450-MHz field (0.75 mW/cm^2, 16-Hz sinusoidal modulation) lend strong support to this concept. Synaptosomes are the endings of nerve fibers that form synaptic junctions on the surface of nerve cells. They mediate the transmission of signals from one nerve cell to the next and have a mean diameter of 0.7 micrometers. They can be isolated from other elements in cerebral tissue by ultracentrifugation, and their membranes can be resealed, allowing the centrifuged fraction to be used as a model cerebral system. Exposure to the 16-Hz-modulated, 450-MHz field increased calcium efflux by 38 percent, but 60-Hz modulation was without effect. Manipulation of calcium levels in the bathing fluid in these experiments indicated that the increased calcium efflux came from sites on membrane surfaces, rather than from pools of intracellular calcium (Lin-Liu and Adey, 1982).

In non-nervous tissue, studies of hormone binding and cell-mediated immunity now provide categorical evidence for cell-membrane sites as the focus of major interactions with low-level fields. Cultured bone

cells and cultured embryonic bones exposed to a 72-Hz pulsed magnetic field (pulse duration 325 μs, peak intensity 20 gauss, typical induced current in culture medium 1 μA/cm², induced electric gradient 1.1 mV/cm) showed a response to parathyroid hormone (PTH) diminished by 90 percent. This peptide hormone binds to receptor sites in membrane-surface glycoproteins and stimulates the activation of the enzyme adenylate cyclase, which is attached to the inner surface of the membrane. In contrast, these fields exerted no influence on the activation of adenyl cyclase by 1,25-dihydroxy vitamin D_3, a substance that acts intracellularly, probably at the cell nucleus (Luben *et al.*, 1983).

Destruction of target cells by rupture of cell membranes (cytolysis) is a cell-mediated immune response of T-lymphocytes made allogeneic against these target cells and requiring actual contact between lymphocytes and target cells. This interaction was reduced by 20 percent when lymphocytes were exposed to a 450-MHz, 1.5-mW/cm² field sinusoidally modulated at 60 Hz (Lyle *et al.*, 1982). This response showed a windowed relation to the modulation frequency, with maximal effects at 60 Hz and progressively smaller responses at higher frequencies to 100 Hz and at lower frequencies to 3 Hertz. Unmodulated fields had no effect. Recovery of killing capacity occurred after 12 hours.

11.1.3 *Physiological Models of Weak RFEM-Field Interactions in Tissue*

No comprehensive models are yet available that adequately explain all transductive coupling phenomena involving weak fields in tissue. However, it has become clear that many of these biological effects in weak fields can only be understood in terms of cooperative processes based on nonequilibrium, resonant, long-range interactions involving biological macromolecules (Adey, 1975, 1977, 1981a; Fröhlich, 1968b, 1975b; Kaiser, 1978a,b; Grodsky, 1976; Grundler *et al.*, 1977; Kaczmarek, 1976; Illinger, 1977).

A strongly presumptive site for these interactions, and one considered as a substantive aspect of virtually all these models is the surface of the cell membrane. The molecular biology of cell membranes is a topic of intense continuing research. It is now accepted that older concepts of the membrane as a simple lipid bilayer must be replaced by the view that the lipid bilayer is fluid and encloses a considerable number of "intramembranous particles" (IMPs), which have considerable lateral mobility within the lipid bilayer. These concepts are subsumed under the general title of the "fluid mosaic model" (Singer and Nicolson, 1972). The IMPs are proteinaceous, with externally protruding terminal strands of amino sugars that bear numerous negative charge sites at fixed locations on the terminal strands. These fixed charge sites thus form a polyanionic sheet on the membrane surface, with a strong affinity for cations, of which H^+ and Ca^{2+} are those with the highest binding affinities in the extracellular fluid (Katchalsky, 1964). This polyanionic sheet appears to form a sensing surface in the first steps in the transductive coupling of a wide variety of weak cell-surface events, including the binding of antibody molecules in an immune reaction (Edelman, 1976; Yahara and Edelman, 1972), in the binding of hormonal molecules (Sutherland and Robison, 1966), and in the weak neurobiological stimulations discussed here.

The sum of observations and constraints does not favor a direct transductive coupling of weak extracellular fields across the plasma membrane, with its extremely high electric gradient probably 12 orders of magnitude greater than these extracellular fields (for review, see Adey, 1981b). Some form of amplification of the initial transductive steps would appear essential. We may also presume that, if this occurs at an extracellular location, it involves systems capable of integrating the weak field over some distance, and would thus occur in the length and area of the membrane surface, rather than in a transmembrane axis (Adey, 1977). This problem has been addressed by Einolf and Carstensen (1971) in a study of the behavior of micro-sized resin particles considered as porous particles with uniformly distributed, fixed-charge sites. Their model is an extension of an earlier formulation by Schwarz (1962), which considered the movement of ions along the surface of solid (rather than porous) colloid particles. At the surface of the particles, the boundary region is characterized by a very large, radially directed static field with a corresponding radial variation in the distribution of mobile ions. Maintaining this distribution has the effect of requiring the ions in the boundary layer to move in a path tangent to the surface of the particle. Porous, charged particles are characterized by a low-frequency dielectric relaxation, leading to large static dielectric constants. A final result is polarization of the ionic atmosphere at the surface of the particle in the presence of an external electric field. This polarization produces an additional *apparent* dielectric constant of the particles, exceeding the actual dielectric constant by several orders of magnitude at low frequencies. The magnitude of the low-frequency dielectric constant is proportional to the size of the particle and the square root of the fixed-charge concentration in the porous material. The relaxation frequency depends directly on counterion mobility and is inversely proportional to the square of the particle size.

The effective dielectric constants of micrometer-sized, ion-exchange resin particles are as high as 10^6 at frequencies below 1 kHz (Einolf and Carstensen, 1971). Similar properties may be expected at the surface of tubular structures with diameters in the micrometer range, including dendrites with polyanionic glycoprotein surface layers. This model provides an avenue for future research into the biological effects cited above in which it appears that thermal noise at normal tissue temperatures is substantially larger than the tissue components of the imposed electric fields. For typical conductors in the biological temperature range, the Boltzmann kT noise is of the order of 0.02 electron volts. However, this expression gives little concept of the extent to which electric gradients in tissue may be established by thermal, atomic, or molecular perturbations, nor of the way in which components of this noise may be transferred to distant sites within tissue. In metallic conductors, the transfer function for this noise energy has an essentially infinite bandwidth, a condition that does not pertain in tissue. The transfer function of thermoelectric noise in tissue has yet to be studied. However, a tentative model does offer interesting points of resemblance to observed neurochemical and behavioral thresholds (Bawin and Adey, 1976). Data from the Einolf and Carstensen study indicate that ionic conductance along a membrane surface in the counterion layer will exhibit an inverse frequency dependence and limited bandwidth due to the very high apparent dielectric constant in this zone. The Boltzmann equation may be written in terms that model the tissue in this region as a low-pass filter:

$$e^2 = kTBR, \qquad (11.2)$$

where the transfer function for the root-mean-square noise voltage, e, is a function of the temperature, T, the frequency bandwidth, B, and the specific resistance of the noise pathway, R. With a specific resistance for brain tissue on the order of 300 Ω cm and an effective frequency bandwidth from 0 to 100 Hz, the equivalent, noise voltage gradient would be on the order of 10^{-8} V/cm. This value is in close agreement with observed sensitivities of marine vertebrates, birds, and mammals to certain low-frequency fields, and these thresholds are consistent with a thermal floor as the limiting factor.

Virtually all identified steps in these processes are known to be calcium-ion dependent. In all these events, the observations and models indicate that integrative processes in the coupling of these surface interactions to intracellular mechanisms first occur in the length and area of the membrane, prior to communication of information to the interior of the cell. This, too, has been a significant new concept in models of the molecular biology of excitatory processes.

11.1.3.1 *Quantum Mechanical Models of Long-Range Interactions.* There has been growing interest in models for predictive evaluation of these unexpected biological sensitivites. These models were advanced to resolve two of the more baffling problems of these effects: sensitivity to low-intensity fields and possible bases for molecular interactions in the ELF spectrum below 100 Hertz. There are at least four major groups of models, all of which emphasize phase transitions at extremely low frequencies: charge-pumping models, Lotka-Volterra models of charge-population transitions, models of limit-cycle phenomena, and models of tunneling effects.

11.1.3.1.1 *Models of Macromolecular Phase Transitions at ELF.* There are no known mechanisms to explain ELF biological effects on the basis of direct interactions with component dipoles of molecular systems that oscillate at these low frequencies. Therefore, a structural and functional basis must reside in properties of molecular systems. Grodsky (1974, 1976, 1977) has hypothesized that excitable membranes are energetically equivalent to sheets of giant dipoles bathed in controlled external electric fields. His model examines the role of long-range cooperative processes in latticed mosaic systems of the type first proposed by Ising (1925) to explain mechanisms of ferromagnetism. Grodsky's model encompasses the concept of a "greater" membrane (see below), in which the cell membrane is conceived as extending beyond the phospholipid bilayer by the external protrusion of strongly polyanionic, sialic-acid side chains that are stranded terminals of glycoprotein and ganglioside intramembranous particles (Schmitt and Samson, 1969; Singer and Nicolson, 1972).

In this model, the outer layer of phospholipid polar heads is represented by a two-dimensional crystal mosaic of multipolar sites (p-sites), sprinkled with islands of glycoproteins. The "fuzz" of the outer membranes, above the p-sites, displays a mosaic of cationic binding sites (c-sites). The c-sites are less densely packed and less tightly bound mechanically than are the p-sites, and their electric charge depends on local, external ionic contributions, which can vary quite rapidly. The prediction of behavior from a knowledge of structure rests on the ability to identify the contributions of p-sites and c-sites to the total energy of the system in the context of mutual interactions between the two sheets of charges. The p-sites are taken to be occupied by ideal dipoles. If the dipoles are densely packed, neighboring interactions will tend to keep them oriented, on the average, perpendicular to the sheet, so that the energy in the p-sheet can be expressed as a Hamiltonian integral of the dipole fields. This field decreases as the cube of distances between the sites. The c-sites are assumed to be variably occupied by divalent or monovalent cations, or to be unoc-

cupied. The charges interact with each other through Coulombic forces in the *c*-sheet and via the dipoles in the *p*-sheet. Coupling between the sheets falls off rapidly as the distance, r, between the sites increases, but the fields set up by the *c*-sites are of much longer range, falling off as r^{-2} instead of the dipolar r^{-3}.

The Hamiltonian expression of the membrane model then becomes mathematically equivalent to that describing the interactions of bands of electrochemical quasiparticle excitations with each other and with a band of phonons, via phonon exchanges, in a complicated combination of dipole rotations, ion exchanges, and mechanical vibrations. The quasiparticle, phonon-coupling constants are negative, because energy is dissipated in the interactions. Negative coupling gives rise to the possibility of new bound states (altogether new bands of quasiparticles of higher frequency), but more importantly, negative coupling always *lowers* the frequency of the existing bands. The direct couplings between the *p*- and the *c*-sheets produce strongly negative contributions to the energy, and are thus capable, under certain conditions, of lowering the uncoupled *p*- and *c*-sheet frequency bands. Grodsky applied his theoretical model to a simplified system consisting of a perfect two-dimensional lattice. At progressively increasing energy levels, this system passes successively through antiferro-like, flop, and para-like phases.

Below a critical level of thermal energy (Neél temperature), at low external field intensities, neighboring interactions and anisotropic fields dominate in the sheet, and the dipoles assume a checkerboard configuration with each neighbor pointing oppositely, on the average, in or out of the sheet; the system is in the antiferro-like phase. At higher field intensities, but below the triple-point energy, the dipoles flop over so that they are perpendicular to the field on the average, but are still in an antiferro-like configuration within the sheet; the system is in the flop phase. With increasingly intense fields below the Neél energy, or at temperatures greater than the critical point, the external field overrides the sheet interactions. The dipoles then follow any external field and the system is in the para-like phase. When the system is in the antiferro-like phase and as the external electric field increases from zero, two bands of oscillations emerge from the initial "degenerate" bands of excitations, one increasing and the other decreasing, until the lowest frequency band (longest wavelength) reaches zero.

TABLE 1.1—*Frequency bands of the RFEM spectrum*[a]

Band number	Frequency range	Metric subdivision (waves)	Adjectival description	Acronym
1	>0 to 30 Hz	—	Sub-extremely[b] low frequency	SELF[b]
2	30 to 300 Hz	Megametric	Extremely low freqency	ELF
3	0.3 to 3 kHz	—	Voice frequency	VF
4	3 to 30 kHz	Myriametric	Very-low frequency	VLF
5	30 to 300 kHz	Kilometric	Low frequency	LF
6	0.3 to 3 MHz	Hectometric	Medium frequency	MF
7	3 to 30 MHz	Decametric	High frequency	HF
8	30 to 300 MHz	Metric	Very-high frequency	VHF
9	0.3 to 3 GHz	Decimetric	Ultra-high frequency	UHF
10	3 to 30 GHz	Centimetric	Super-high frequency	SHF
11	30 to 300 GHz	Millimetric	Extremely high frequency	EHF
12	0.3 to 3 THz	Decimillimetric	Supra-extremely high frequency[c]	SEHF

[a] From Sams (1968), based on international treaty involving participants in the International Telecommunications Union (ITU, 1981).

[b] Band 1 is a designated band with no official adjectival description and symbol. Suggested entries are shown for this band.

[c] Band 12 has no official adjectival description. A suggested entry is shown for this band.

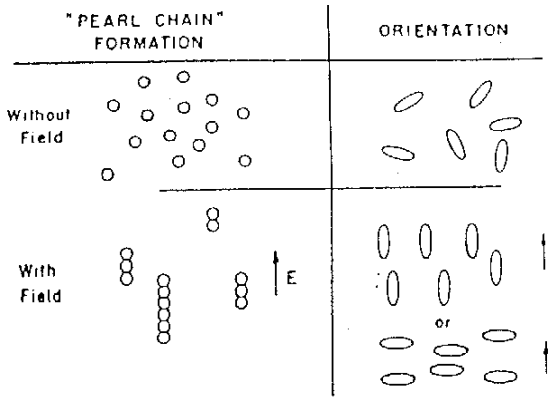

Fig. 2.5. Schematic presentation of some effects of alternating electrical fields on particle and cellular arrangements. (From Schwan, 1975.)

TECHNOLOGY TO BOGGLE YOUR MIND...

This is a listing of various technologies available which can be combined for use in direct or subliminal mind-control systems. Please note that these are mainly private inventions intended for positive uses, but could be applied for negative purposes as well.

• Silent Subliminal Presentation System, US Patent #5,159,703, Oliver Lowery, October 27, 1992. A silent communications system in which non-aural carriers in the very low or very high audio-frequency range, or in the adjacent ultrasonic frequency spectrum, are amplitude-modulated with the desired intelligence and propagated acoustically or vibrationally for inducement into the brain.

• Hearing System, US Patent #4,877,027, Wayne Brunkan, October 31, 1989. A method for directly inducing sound into the head of a person, using microwaves in the range of 100 MHz to 10,000 MHz, modulated with a waveform of frequency-modulated bursts.

• Psycho-Acoustic Projector, US Patent #3,568,347, Andrew Flanders, February 23, 1971. A system for producing aural psychological disturbances and partial deafness in the enemy during combat situations.

• Noise Generator and Transmitter, US Patent #4,034,741, Guy Adams and Jess Carden, Jr, July 12, 1977. An analgesic noise-generator.

• Method and System for Altering Consciousness, US Patent #5,123,899, James Gall, June 23, 1992. A system for altering the states of human consciousness involving the use of simultaneous application of multiple stimuli, preferably sounds, having differing frequencies.

• Subliminal Message Generator, US Patent #5,270,800, Robert Sweet, December 14, 1993. A combined subliminal and supraliminal message generator for use with a television receiver; permits complete control of subliminal messages and their presentation. Also applicable to cable television and computers.

• Superimposing Method and Apparatus Useful for Subliminal Messages, US Patent #5,134,484, Joseph Wilson, July 28, 1992.

• Method of Changing a Person's Behavior, US Patent #4,717,343, Alan Densky, January 5, 1988. A method of conditioning a person's unconscious mind in order to effect desired change in the person's behaviour, and which does not require the services of a trained therapist.

• Auditory Subliminal Message System and Method, US Patent #4,395,600, Rene Lundy and David Tyler, July 26, 1983. An amplitude-controlled subliminal message may be mixed with background music.

• Auditory Subliminal Programming System, US Patent #4,777,529, Richard Schultz and Raymond Dolejs, October 11, 1988.

• Apparatus for Inducing Frequency Reduction in Brain Wave, US Patent #4,834,701, Kazumi Masaki, May 30, 1989.

• Ultrasonic Speech Translator and Communication System, US Patent #5,539,705, M. A. Akerman, Curtis Ayers, Howard Haynes, July 23, 1996. A wireless communication system, undetectable by radio-frequency methods, for converting audio signals, including human voice, to electronic signals in the ultrasonic frequency range, transmitting the ultrasonic signal by way of acoustic pressure waves across a carrier medium, including gases, liquids and solids, and reconverting the ultrasonic acoustic pressure waves back to the original audio signal. This invention was made with government support under Contract DE-ACO5-840R21400, awarded by the US Department of Energy to Martin Marietta Energy Systems, Inc.

• Non-Audible Speech Generation Method and Apparatus, US Patent #4,821,326, Norman MacLeod, April 11, 1989.

• Apparatus for Electrophysiological Stimulation, US Patent #4,227,516, Bruce Meland and Bernard Gindes, October 14, 1980.

• Method and Recording for Producing Sounds and Messages to Achieve Alpha and Theta Brainwave States and Positive Emotional States in Humans, US Patent #5,352,181, Mark Davis, October 4, 1994.

• Method and Apparatus for Translating the EEG into Music to Induce and Control Various Psychological and Physiological States and to Control a Musical Instrument, US Patent #4,883,067, Knispel et. al., November 28, 1989.

• Method of and Apparatus for Inducing Desired States of Consciousness, US Patent #5,356,368, Robert Monroe, October 18, 1994. Improved methods and apparatus for entraining human brain patterns, employing frequency-following-response (FFR) techniques and facilitating attainment of desired states of consciousness.

• Method of Inducing Mental, Emotional and Physical States of Consciousness, including Specific Mental Activity, in Human Beings, US Patent #5,213,562, Robert Monroe, May 25, 1993.

• Device for the Induction of Specific Brain Wave Patterns, US Patent #4,335,710, John Williamson, June 22, 1982. Brainwave patterns associated with relaxed and meditative states in a subject are gradually induced without deleterious chemical or neurologic side effects.

• Method and Apparatus for Repetitively Producing a Noise-like Audible Signal, US Patent #4,191,175, William Nagle, March 4, 1980.

• Apparatus for the Treatment of Neuropsychic and Somatic Diseases with Heat, Light, Sound and VHF Electromagnetic Radiation, US Patent #3,773,049, L. Y. Rabichev, V. F. Vasiliev, A. S. Putilin, T. G. Ilina, P. V. Raku and L. P. Kernitsky, November 20, 1973. Don't let the nice title fool you. This is the patent for *LIDA*, the infamous Soviet brainwashing machine.

• Non-Invasive Method and Apparatus for Modulating Brain Signals through an External Magnetic or Electric Field to Reduce Pain, US Patent #4,889,526, Elizabeth Rauscher and William Van Bise, December 26, 1989.

• Nervous System Excitation Device, US Patent #3,393,279, Gillis Patrick Flanagan, July 16, 1968. A method of transmitting audio information via a radiofrequency signal modulated with the audio info through electrodes placed on the subject's skin, causing the sensation of hearing the audio information in the brain.

• Method and System for Simplifying Speech Waveforms, US Patent #3,647,970, G. Patrick Flanagan, March 7, 1972. A complex speech waveform is simplified so that it can be transmitted directly through earth or water as a waveform and understood directly or after amplification.

• Means for Aiding Hearing, US Patent #2,995,633, Henry Puharich and Joseph Lawrence, August 8, 1961. Means for converting audible signals to electrical signals and conveying them to viable nerves of the facial system.

• Means for Aiding Hearing by Electrical Stimulation of the Facial Nerve System, US Patent #3,170,993, Henry Puharich, February 23, 1965.

• Hearing Device, US Patent #4,858,612, Philip Stocklin, August 22, 1989. A method and apparatus for simulation of hearing in mammals by introduction of a plurality of microwaves into the regions of the auditory cortex.

ıtion to and from the brain...
: start, stop or modify a
of autonomic, somatic,
)ral, and mental manifesta-
We can experiment with
rebral mechanisms responsi-
the onset and maintenance of
: behavioral and mental
ns... As no batteries are used,
of the transmitter is indefi-
)wer and information are
d by radio frequencies.

report of a Parliamentary
ittee chaired by Alva Myrdal,
972:59 entitled "To Choose
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:arch into the field of cerebral
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of changes that can be
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ıg as well as the risks of
! and modification of behav-
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state report SOU 1987:74
entions the technique, discuss-
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f another person:

inevitable that covert per-
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ty. A person's private and
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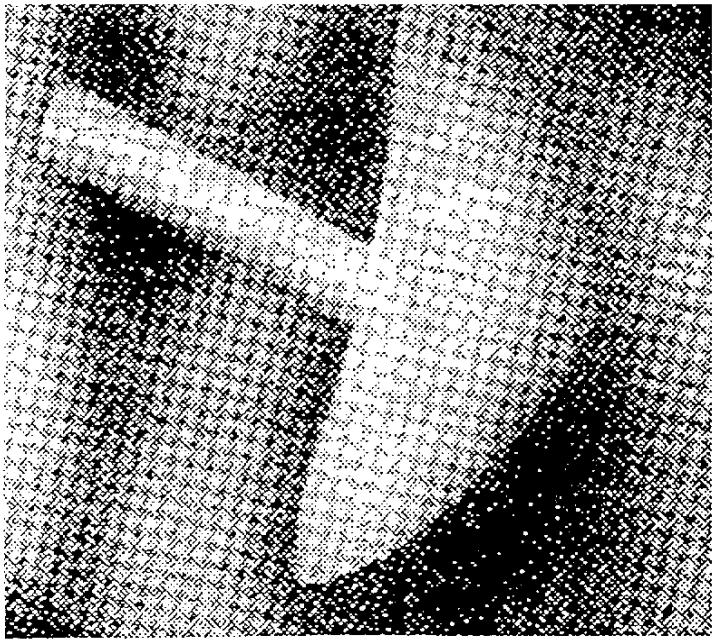
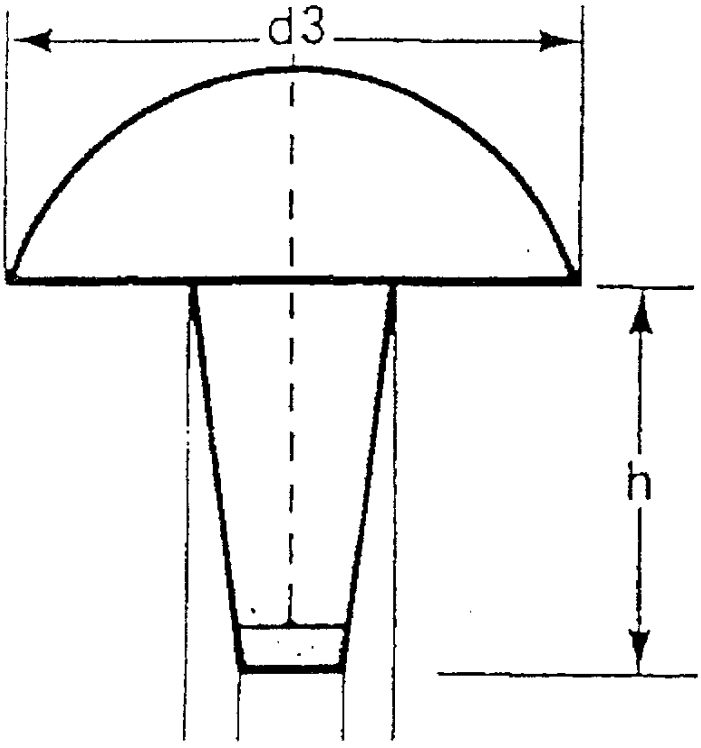
cludes any encounters the
lual has with other people.
' and other such written
unications which the individual
:s, for example, at home or in
ice, can be monitored during
'lance.

'as on my first occasion with
lice, on March 10, 1972, that
put to sleep without my
ıt and when I awoke a few
later it was to a whole new
f life. The first thing I was
of was a deeply disturbing
signal in my head. The elec-

trating my skull was brainwashing, and had a detrimental effect on my memory functions, habits and behaviour. Slowly but surely I was being changed into a different person with greatly impaired faculties. As can be seen from the X-ray photograph shown, this transmitter had been inserted through the left nostril.

The experiment which then began went on daily, unchanging, for the following 3.5 years. It inhibited the capacity of my left cerebral hemisphere, and after a short while I lost such basic skills as sequentiality, turning the alphabet, for example, into a swarm of irretrievably disordered letters. My capacity for logical thought was impaired and due to the brainwashing I had great mnemonic problems which created daily chaos. Dr. Lindström's reference in his second letter to this process as "the electronic dissolution of memory" is a fitting description of what was happening to me.





The Transmitter: Detail of X-Ray
Below, a diagram of the "epidurmal peg electrode" marketed by Dow-Corning for insertion into the human brain.

Gordon Thomas, the well-known author and BBC producer, wrote in the introduction to his book *Journey Into Madness*, that:

Since the 1950s, doctors in both east and west have ignored the sacred oaths of their profession and helped in governments-sponsored research into methods of medical torture and mind control.

A detail of one X-ray of my head shows the nasal passages and the area behind the forehead. Two shaded parts indicate the position of the transmitters that were surgically removed at private hospitals overseas. One was inserted at Söder Hospital, while another was the one I received in police custody in 1978.

P.A. LINDSTROM, M.D.
1885 CALLE DELICADA
LA JOLLA CA 92037
(714) 270-1350

June 20, 1983

Dear Mr. Naeslund:

The enclosed letter of May 30 I had prepared in rough draft. I don't find a copy so I might not have mailed it to you. Later I received your additional skull film, which clearly demonstrated some implanted transmitters, one inside the brain and two probably just underneath the brain. Within a week I shall have that film examined by the radiologists here, but I do not expect them to prove, nor to rule out, any brain damage like granulomatous changes or a superficial brain abscess, at least not based on the findings of that plain skull film you sent.

I have been very busy the last month

Expert Opinion: From a letter to Robert Naeslund dated June 20, 1983 by professor P.A. Lindström, M.D. In another letter dated July 27, 1983, Lindstrom related an encounter with the infamous mind control expert Jose Delgado [See PARANOIA Issue 17, "A Brief History of Modern Mind Control"]. Delgado urged Lindstrom to focus his research on "the "altering [of] patient's behavior," but Lindström rejected the idea.

UNIVERSITY HOSPITAL
University of California
Medical Center, San Diego

PROGRESS RECORD

(Typewriter Copy)

Source

Request Date

Patient Identifica

TO WHOM IT MAY CONCERN:

Recently I reviewed a skull film marked: NASLUND, ROBERT and dated 26-11, 1981. That film shows a couple of unusual foreign bodies at the base of the skull, possibly some form of brain transmitters.

However, I have not examined or talked to this patient and do not know the pertinent history.

San Diego, CA
October 6, 1983

Ingmar Wickbom

Ingmar Wickbom, M.D.
Professor of Radiology
U.C.S.D.

An enlarged x-ray of a brain implant.

P.A. LINDSTROM, M.D.

July 27, 1983

Mr. R. Naeslund
Ervallakroken 27
12443 Bandhagen
SWEDEN

In response to your most recent letter regarding the roentgen films I can only confirm that some foreign objects, most likely brain transmitters, have been implanted at the base of your frontal brain and in the skull.

The risk of such implantations is considerable and the risk of chronic infections and meningitis when the implantation has been made through the nose or the sinuses are real issues.

In my opinion, there is no excuse for such implantations if the patient has not been fully informed about the procedures, the purposes, the risks, the method of anesthesia, etc. and then gives a clear written consent.

I fully agree with Lincoln Lawrence, who in his book on page 27 wrote: "There are two particularly dreadful procedures which have been developed. Those working and playing with them secretly call them R.H.I.C. and E.D.D.M.--Radio-Hypnotic Intracerebral Control and Electronic Dissolution of Memory."

Many years ago I had some discussions with Delgado. He asked me to apply my ultrasonic technique for his particular purpose of altering patient's behavior but I declined because we had entirely different aims and approaches. However, I found Delgado to be an intelligent but somewhat strange man.

Best wishes!

P. Lindstrom

P. A. Lindstrom, M.D.

PAL/mjt

61

BRAIN TRANSMITTER

Device which stream through the brain with a frequency that picks up the sensory functions of the brain by means of a transmitted wavelength, which is transmitted to a receiver. Vision, thoughts, images, hearing, etc are completely obvious to the person who has the receiver connected to his head. Vision can even be transmitted to a screen. The eyes of the person with an installed brain transmitter function in this case the equivalent of the lens of a camera.

The brain transmitter is the size of about half of a cigarette filter. The shell is manufactured of optical fibre, and the contents of liquid chrystals.

The brain transmitter is inserted into the head through the nose.

During its first experimental period the brain transmitter was implanted in patients under general or local anesthesia during hospital operations. The police began to use brain transmitters around 1972.

During the early 70's, the police instigated illegal use of brain transmitters. People under arrest and in detention were anaesthetized by mixing somnisacients in food and drink. The apparatus was then inserted.

A doctor at one of the larger hospitals in Stockholm has also mentioned that young children were also used for these experiments in order to evaluate thought activity and reactions in children.

According to information from a person close to Department Head Falkenstam at The National Swedish Police Board, Swedish Prime Minister Palme gave the police the right in 1973 to insert brain transmitters into the heads of human beings.

It has been verified by people in official positions that the brain transmitter is used both in the Soviet Union and the United States, as well as in countries such as Sweden.

One of the brain transmitter centre in Sweden is known to be located at the police headquarter at Kungsholmen, Stockholm.

If you suspect you are a victim of this subject, write Hallbladet, Box 36047, 100 71 STOCKHOLM.

Some of the victims of Swedish brain-manipulation are dead, some alive. According Robert Naeslund the last victim who died was Edward Kelly. He died for cancer on 28. May 1985.

United Nations Centre of Human Rights, Chief for communications unit, Jacob T.H. Möller answered on 14th August for a complaint ma for Swedish governement illegal use of braintransmitters: " I regre having to inform you that the United Nations cannot be of any as- sistance to you in the matter which you have raised."

With the exception of a few free newspapers, Swedish media have exercised total silence about the matter.

62

00436-124

DOB: 08-13-1950
FMC ROCHESTER, MN

	M	1-2	
EXAMINATION REQUESTED (Use CPT if no medical terminology)	Skull x-ray (4 views)		
LOCATION OF MEDICAL RECORDS: 12	REQUESTED BY: Dr. Stone		TELEPHONE NO.: 285
	FILM NO.:	DATE REQUESTED: 7-15-92	PREGNANT: ☐ YES ☒ NO

SPECIFIC REASON(S) FOR REQUEST (Complete and indicate)
looking for foreign bodies

DATE OF EXAMINATION (Month, day, year)	DATE OF REPORT (Month, day, year)	DATE OF TRANSCRIPTION (Month, day, year)
7-17-92	07/22/92 dd	07/22/92 dt: 07/22/92 las

RADIOLOGIC REPORT

In the lateral views there appear to be clusters of punctate radiopaque foreign bodies. However, in the frontal projections no radiopaque foreign bodies are identified. Recommendation would be to repeat a lateral view to further exclude a foreign body.

DR 7/23/92

COPY
Not To Be Rereleased

SIGNATURE: William C. Wells, M.D. LOCATION OF RADIOLOGIC FACILITY

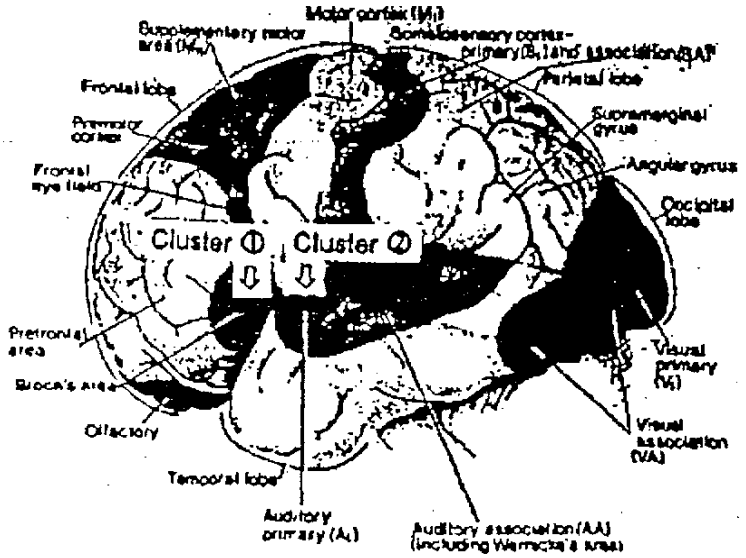


FIGURE 13-2 *Major functional areas of cortex. (From Pandya D N, Yeterian E H: Architecture and connections of cortical association areas. In Cerebral Cortex, vol 4, p 3. A Peters, E G Jones, editors. Plenum, New York, 1935, with permission.)*

CONTROL BEHAVIOR?

Historically, the rights of the individual have been
duced in a manner that can be labeled evolutionary w
very precise regard for not limiting certain basic or
mental rights. Although this action has not been uni
theoretically perfect, examining the background of
in our country today, the overall validity of this
apparent.

The changes made in individual rights ha
large extent, as much the result of intellect
as the result of forces caused by the increa
and eagerness of men to make use of the

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the hope that
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d, its institutions
rotect the increas-
from its inherent
en further restrain

very basic ones. They
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ag him. During the last
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se of intimacy. They have
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se.

In the past fifty years, we have ex
explosion that has perhaps far outstr
ery that has been forced to deal w
segments of the intellectual comm
our society is to survive at all, it
redesign itself. They advocate t
opment of our society be rep
overall plan.

One of the leading pro
Skinner, author of *Walde*
Freedom and Dignity.

Skinner's reasonin
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selfish instead
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also found its place in early
ty. Evidence of this right and
it has even been observed in
it becomes more established, it
at conduct that is impressed
iety from the moment they first

various restraints properly imposed
society into two general categories,
reflexive. In a third category we would
hich are imposed by a group, but which
to the survival or facile functioning of
ignate these as oppressive restraints.

line between imposed and oppressive re-
law of constitutional rights deals. The ideal
ould be, the smooth operation of the society
imposition on the rights of the individual.

, 294 N.W. 148 (1941). McDonald, C. J., stated for the
ave been used, it is no valid objection that it imposes reasonr
ain upon natural and constitutional rights. It is an historic fact
forward step in the progress of the race is marked by an inter-
ch individual liberties.
N. The Theoretical Imperative (1966).

, JD Georgetown '72, is currently a graduate Federal agent. While
ed Research Division of Georgetown, he was employed by the Federal

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Rio Iron Inquirer, The Georgetown Law Center Review of Law and Th
Public Interest, is published by Georgetown University Law Center and th
by its students. Business and editorial offices at Rm. 1-301, 600 New J
Ave., N.W., Washington, D.C. 20001.

Friday, March 24, 1989

PETS IN MARIN TO GET MICROCHIP

From Page 1

Home Society. "It makes a little beep
— just like at the check stand. It's
very high-tech."

As Small as Rice

The chips are encased in glass
and are as small as a grain of rice.
They are injected with a needle
near an animal's shoulder blades.

On the chip is a 10-digit number
that corresponds to local and inter-
national files containing the name,
address, phone number of the ani-
mal's owner, and other pertinent
information. The number is perma-
nent, but the files can be updated.

Although some people are tak-
en aback at the thought of such a
thing, the procedure is said to be
about as painful as a tetanus shot
and almost as effective.

"In the final analysis, giving
your pet a phone number to call if
it's about to die is not about the
nicest thing you can do for him,"
said Michael Thomas, managing di-
rector of International Infopet Sys-
tems Inc., which markets the de-
vice.

First in Nation

The Marin Humane Society will
be the first shelter in the country to
operate a lost-and-found pet pro-
gram based on the microchip and
scanner system. Under an experi-
mental program starting in May,
the shelter will implant the chips
into adopted pets and use a scanner
to determine whether lost pets can
be reunited with their owners.

About 150 veterinarians al-
ready have the complete system,
and some shelters have the scan-
ners, but no shelters have had the
microchip before, said Infopets
Thomas.

The system is still so new that
no pets implanted with microchips
by veterinarians in the United
States have yet been lost and traced
to their owners through the system,
although a handful have been
found in Canada, he said.

Infopet installed the first scan-
ners in shelters in Ventura County
last April. The scanners are now in

Cindy Machado, field supervisor for the Marin Hum
used a scanner to check the ID implanted in Rowdy

Massachusetts and Missouri and will
soon be installed in Illinois, Florida,
New York and Nevada, according to
the company.

Saving Lives

About 2,500 stray animals,
mostly dogs and cats, are destroyed
each year at the Marin Humane So-
ciety shelter, and the new system
could save at least some of them
lives, Wright said.

The device is most helpful for
cats because they tend either to lose
their identification tags or to not
have them to begin with, Wright
said.

Last year, the shelter took
close to 2,000 stray cats. Only ab
14 percent were reunited with
owners, she said.

"It's very sad," Wrig
That's a significant num

have to die because
identified."

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kind of ident
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'Not Feel

"It
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A (magnified) view of the pet
identification microchip

Microchip IDs To Be Injected Into Marin Pets

By Torri Minton
Chronicle Santa Rosa Bureau

Groceries have them. Tape
cassettes have them. Even li-
brary books have them.

Soon, in Marin County, all do-
and cats adopted from the Hu-
Society will be implanted w
— devices that can be
information like wa
and at the store

But u

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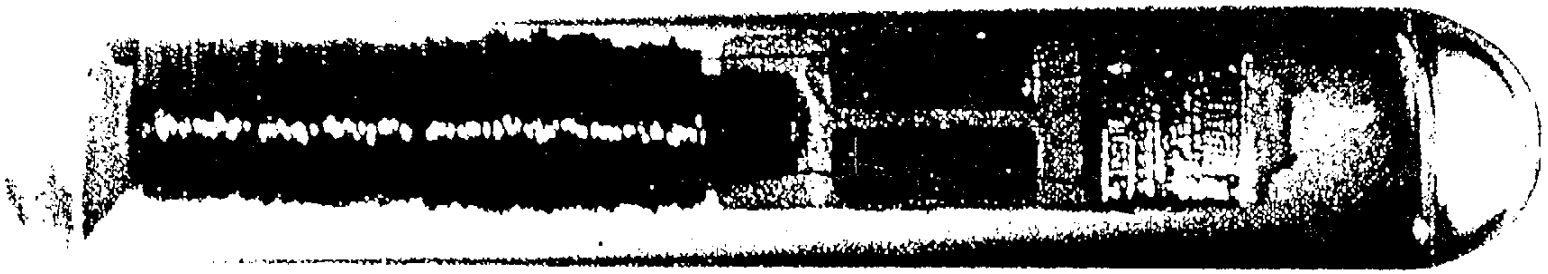
Implantable Transponder

DESTRON/IDI

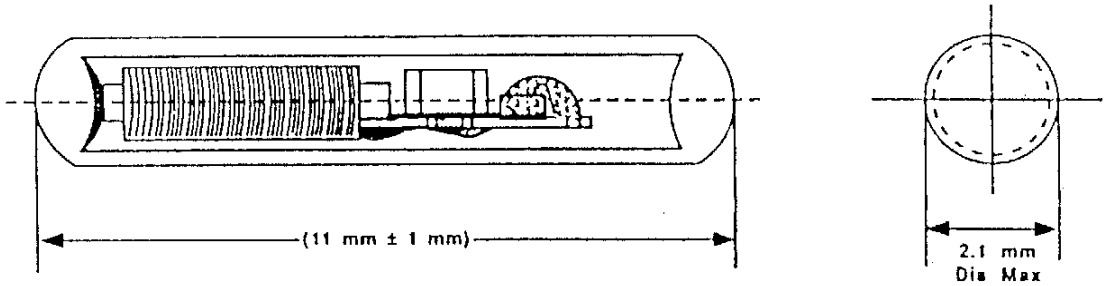
Product Description:

The Implantable Transponder is a passive radio-frequency identification tag, designed to work in conjunction with a compatible radio-frequency ID reading system. The transponder consists of an electromagnetic coil and microchip sealed in a tubular glass enclosure. The chip is preprogrammed with a unique ID code that cannot be altered; over 34 billion individual code numbers are available. When the transponder is activated by a low frequency radio signal, it transmits the ID code to the reading system. Independent testing has shown the transponder to be safe and easy to implant.

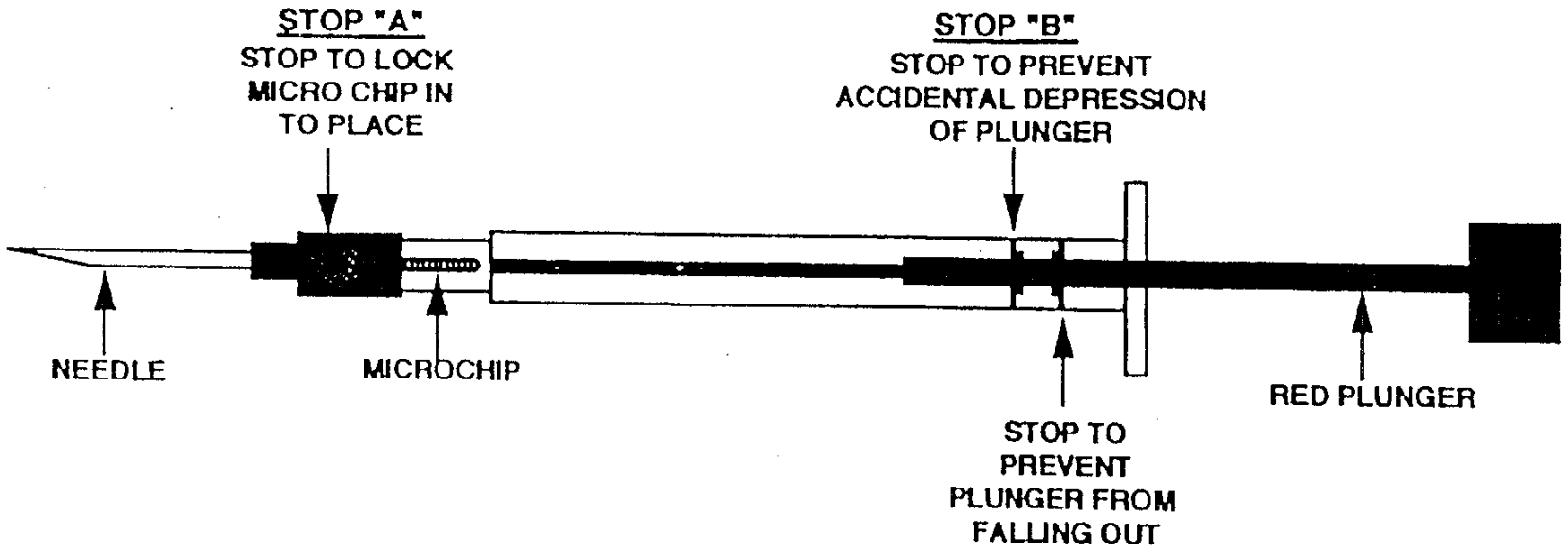
Although specifically designed for implanting in animals, this transponder can be used for other applications requiring a micro-sized identification tag.



Specifications:



AVID



HOW TO USE THE AVID "SUDS"

(SINGLE USE DISPOSABLE SYRINGE)

CONFIDENTIAL

INTELLI-CONNECTION
A Security Division of IBM
1200 Progress Way
Armonk, New York 11204

LIMITED DISTRIBUTION ONLY
LEVEL 9 COMMUNICATION

2020 NEURAL CHIP IMPLANT

The control of crime will be a paramount concern in the 21st Century. We must be ready with our security products when the demand for them becomes popular. Our Research and Development Division has been in contact with the Federal Bureau of Prisons, the California Department of Corrections, the Texas Department of Public Safety, and the Massachusetts Department of Correction to run limited trials of the 2020 neural chip implant. We have established representatives of our interests in both management and institutional level positions within these departments.

Federal regulations do not yet permit testing of implants on prisoners, but we have entered into contractual agreements with privatized health care professionals and specified correctional personnel to do limited testing of our products. We have also had major successes in privately owned sanitariums with implant technology. We need, however, to expand our testing to research how effective the 2020 neural chip implant performs in those identified as the most aggressive in our society. Limited testing has produced a number of results.

In California, several prisoners were identified as members of the security threat group, EME, or Mexican Mafia. They were brought to the health services unit at Pelican Bay and tranquillized with advanced sedatives developed by our Cambridge, Massachusetts laboratories. The implant procedure takes 60-90 minutes depending upon the experience of the technician. We are working on a device which will reduce that time by as much as 60%. The results of implants on 8 prisoners yielded the following results:

- Implants served as surveillance monitoring device for threat group activity
- Implants disabled two subjects during an assault on correctional staff
- Universal side effects in all 8 test subjects revealed that when implant was set to 116 MHz all subjects became lethargic and slept on an average of 18-22 hours per day
- All subjects refused recreation periods for 14 days during the 116 MHz test evaluation
- 7 of the 8 subjects did not exercise, in the cell or out of the cell and 5 of the 8 subjects refused showers up to three days at a time
- Each subject was monitored for aggressive activity during the test period and the findings are conclusive that out of the 8 test subjects exhibited no aggression, even when provo[redacted]

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2020 NEURAL CHIP IMPLANT

Each subject experienced only minor bleeding from the nose and ears 48 hours after the implant due to initial adjustment

Each subject had no knowledge of the implant for the test period and each implant was retrieved under the guise of medical treatment

It should be noted that the test period was for less than two months. However, during that period substantial data was gathered by our research and development team which suggests that the implants exceed expected results. One of the major concerns of Security and the R & D team was that the test subject would discover the chemical imbalance during the initial adjustment period and the test would have to be scrubbed. However, due to advanced technological developments in the sedatives administered, the 48 hour adjustment period can be attributed to prescription medication given to the test subjects after the implant procedure.

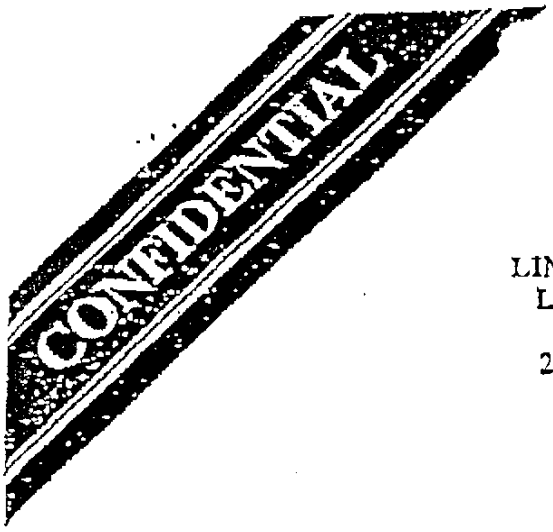
One of the concerns raised by R & D was the cause of the bleeding and how to eliminate that problem. Unexplained bleeding might cause the subject to inquire further about his "routine" visit to the infirmary or other health care facility.

The security windfall from the brief test period was enormous. Security officials now know several strategies employed by the EME that facilitate the transmission of illegal drugs and weapons into their correctional facilities. One intelligence officer remarked that while they cannot use the information they have in a court of law that they now know who to watch and what outside "connections" they have. The prison at Soledad is now considering transferring three subjects to Vacaville where we have ongoing implant research. Our technicians have promised that they can do three 2020 neural chip implants in less than an hour. Soledad officials hope to collect information from the trio to bring a 14 month investigation into drug trafficking by correctional officers to a close.

Essentially the implants make the unsuspecting prisoner a walking talking recorder of every event he comes into contact with. There are only five intelligence officers and the Commissioner of Corrections who actually know the full scope of the implant testing.

In Massachusetts, the Department of Correction has already entered into high level discussions about releasing certain offenders to the community with the 2020 neural chip implants. Our people are

(continuing)



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2020 NEURAL CHIP IMPLANT

not altogether against the idea, however, attorneys for Intelli-Connection have advised against implant technology outside strict control settings. Under the present governmental structure our liability would be enormous. While we have a strong lobby in the Congress and various state legislatures favoring our product, we must proceed with the utmost caution on uncontrolled use of the 2020 neural chip. If the chip were discovered in use not authorized by law and the procedure traced to us we could not endure for long the resulting publicity and liability payments.

Massachusetts officials have developed an intelligence branch from their Fugitive Task Force Squad that would do limited test runs under tight controls with pre-release subjects. Corrections officials have dubbed these potential test subjects "the insurance group." (the name derives from the concept that the 2020 implant insures compliance with the law and allows officials to detect misconduct or violations without question) A retired police detective from Charlestown, Massachusetts, now with the intelligence unit has asked us to consider using the 2020 neural chip on hard core felons suspected of bank and armored car robbery. He stated, "Charlestown would never be the same, we'd finally know what was happening before they knew what was happening."

We will continue to explore community uses of the 2020 chip, but our company rep will be attached to all law enforcement operations with an extraction crew that can be on-site in 2 hours from anywhere at anytime.

We have an Intelli-Connection discussion group who is meeting with the Director of Security at Florence, Colorado's federal super maximum security unit. The initial discussions with the Director have been promising and we hope to have an R & D unit at this important facility within the next six months. (ADX Florence, CO has replaced Marion, Illinois as the federal prison system's ultra maximum security unit)

Legislative and executive branch efforts continue to legalize the implant technology. (See Intelli-Connection Internal Memorandum No. 15)

End Communication... 10/20/95

Distribution: Eyes Only: Project Group [redacted]

In future, tiny chip may get under skin

Critics argue device invites Big Brother

By Jon Van
TRIBUNE STAFF WRITER

A tiny chip implanted inside the human body to send and receive radio messages, long a popular delusion among paranoids, is likely to be marketed as a consumer item early in the next century.

Several technologies already available or under development will enable electronics firms to make implantable ID locators, say futurists, and our yearning for convenience and security makes them almost irresistible to marketers.

"This is currently very hot," said Edward Cornish, president of the World Future Society, based in Bethesda, Md. "The field is developing because the technology is becoming available to do it."

He added: "Its appeal will depend on what features are offered and the price. I'm sure a large number of people would want such products." NOT!!!

Inevitably, implantable radio locators conjure up visions of Big Brother and unscrupulous scientists abusing such technology to control the masses. But the researchers laying the foundations for this technology see their work as helping humankind, not subverting privacy.

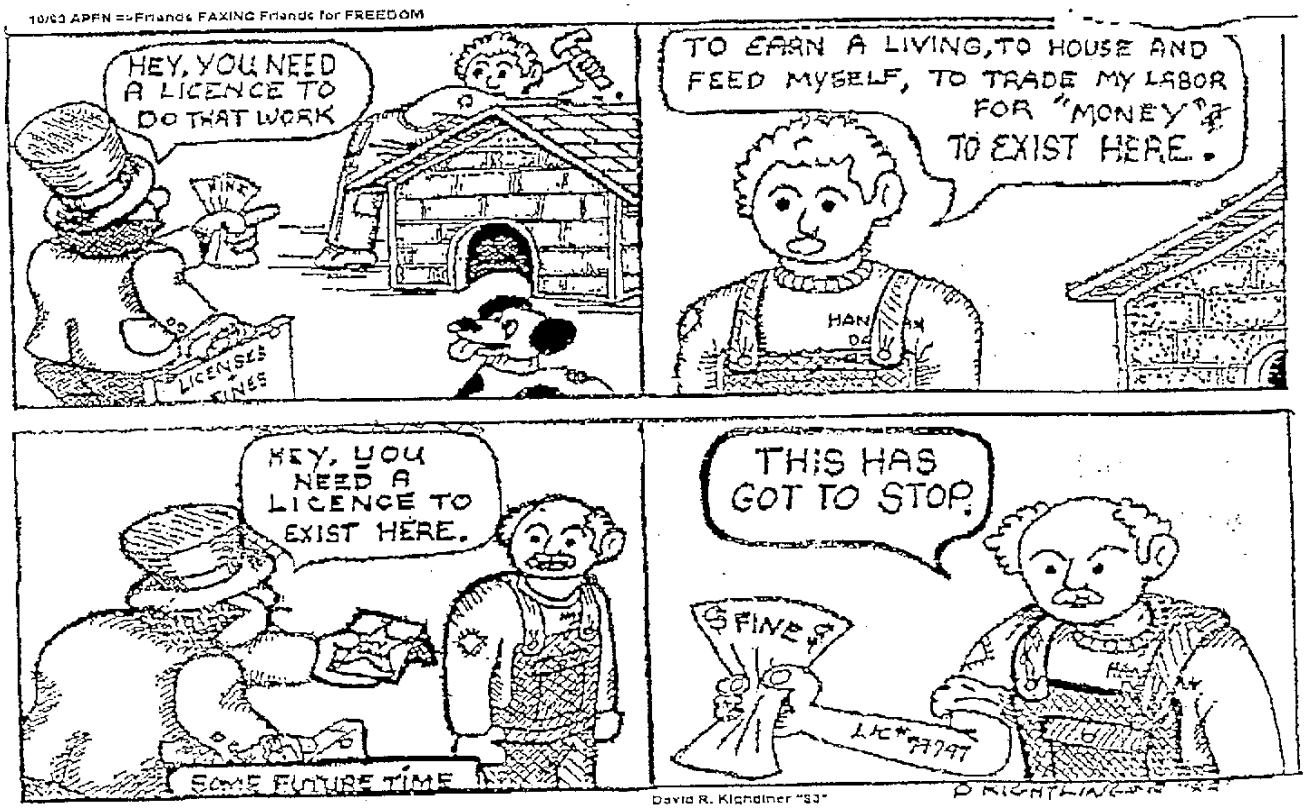
They seek to aid people using wireless phones to summon emergency help, to track soldiers who become lost on maneuvers and to enable people to get along without carrying cash by automatically crediting an account.

Animal advocates already urge pet owners to have tiny identification chips implanted in their dogs and cats so if they are lost, shelters can identify them through a national computerized database.

The notion of using implantable chips to control humans isn't entirely absent, even in these early stages of the technology's development.

Cornish noted that authorities have experimented for years with fitting con-

SEE CHIPS, PAGE 16


10/93 APEN = Friends FAXING Friends for FREEDOM
HEY, YOU NEED A LICENCE TO DO THAT WORK
LICENSES FINES
TO EARN A LIVING, TO HOUSE AND FEED MYSELF, TO TRADE MY LABOR FOR "MONEY" TO EXIST HERE.
HEY, YOU NEED A LICENCE TO EXIST HERE.
SOME FUTURE TIME
THIS HAS GOT TO STOP.
$ FINE $
LIC*****
David R. Kleindiner "93"
D RICHTLINGER '93

Chips

CONTINUED FROM PAGE 1

victs with electronic monitors to allow them to leave jails for limited reasons, such as work release.

"The problem is that monitors worn outside the body can be tampered with," Cornish said. "Implanted locators would be more difficult to get at. You might see this used as a condition for parole."

Several systems already are in place with the potential to locate people using radio signals. The most obvious, called GPS, for global positioning satellites, was launched by the military years ago and has become available for civilian applications. It uses satellites to map a person's position with great precision.

Some automobiles come equipped with GPS gadgets that can give drivers their location, and boaters use similar technology.

Researchers want to combine such locators with equipment that monitors a person's health.

Engineers in Salt Lake City have designed a device intended to determine whether someone wearing it is becoming too cold or too hot, a sign of exposure.

"We want to highlight people who need attention early, when there is still time to get to them with help," said Peter Kind, a senior vice president at Sarcos Research Corp., which has developed a prototype GPS-based device that will be ready for field tests this year.

Sarcos' initial target is the military. The body monitors and locators could transmit information about soldiers to a central location to reduce the risks while troops are on maneuvers.

Civilian markets might include ill people who usually would be restricted to nursing environments, Kind said.

"This could help save costs, letting people who only need observation be released earlier from the hospital without risking their health," he said.

Right now, the prototype equipment is worn on a belt, but the goal is to miniaturize it into a chip. The monitors could be worn in the area of the ear canal or elsewhere in or on the body.

Another means to track people relies upon the existing network of cellular-phone transmitters.

The cellular industry and emergency response officials have proposed standards to the Federal Communications Commission that would enable police, fire and ambulance dispatchers to find people who dial 911 from wireless phones.

At present, nearly one quarter of the 911 emergency calls made in the U.S. come from wireless phones, and half the time the callers don't know their location, posing a major problem for emergency personnel.

Developing computer systems to track locations of so many calls is a daunting task, but it is consistent with the phone industry's goal of one day assigning phone numbers to human beings, rather than to equipment. Once the phone network becomes sophisticated enough to do this, it will smooth the way for widespread monitoring of people's whereabouts.

Companies already market pagers for children so parents can keep in touch when youngsters are away from home. Adding the ability to pinpoint location at any time is a natural extension; keeping track of the child through a chip implanted under the skin may be another.

"People accept that increased communications makes life more convenient at the same time that it means there's no hiding place anymore," said Bernard Beck, a Northwestern University sociologist. "If I have a universal ID implanted, I can cash a check anywhere in the world. There's no worry about credit cards being stolen. These are attractive matters."

Although older people might recoil at the notion of sticking gizmos inside themselves, younger ones tend to like the idea, Beck said.

"In the last generation there's been a radical change about surgery and altering your body. The resistance to having tattoos and wearing body rings is dropping. Altering your appearance through surgery is no longer a cause for amazement."

Problems may arise when some people decide that their implant makes them itch or when it malfunctions and doesn't send out a strong enough radio signal to be received.

Beck sees another potential problem: "You'll see people ripping off implants, counterfeiting them, subverting the technology just as they've done to past technologies."

The main problem, most scholars agree, will be the tradeoff between lost privacy and enhanced convenience.

"It's common in a certain genre of science fiction for people to walk into a place, pick up any item they like and walk out with it, not having to pay because their action automatically generates a debit to their account," said Dan Polsby, a Northwestern University law professor.

"That would make for a very open society," Polsby said. Implanting tracers in criminals could reduce incarceration because it would allow them to be tracked at all times. And, he added, people wearing locators would be deterred from committing crimes because of the likelihood they would be caught.

But the potential loss of privacy is a huge issue. Everyone likes to drop off the screen for an hour or so now and then.

"I don't know that we've wrapped our minds around being accountable minute-by-minute. The legal implications of who owns this information are major," Polsby said. "It's one thing to have my hospital monitoring my heartbeat for fibrillation, but it's an entirely different matter to have the government monitoring my whereabouts."

Although potential problems are huge, locator ID chips may be inevitable, said Cornish of the World Future Society.

Just as many people now allow supermarket chains to keep computerized records of their individual purchases in return for price discounts, many will embrace the chips for the security and convenience they offer, Cornish said.

"We all want to walk down the street feeling safe," he said. "This technology offers that promise along with the dilemma of lost privacy."

Cornish believes, at least initially, that such chips would be voluntary. But he acknowledges that "things that are voluntary today have a way of becoming compulsory tomorrow.

"I was in London recently on a day when everyone on the street was wearing a red poppy. I felt conspicuous without one. I wanted one. As these chips are introduced, people will begin to assume you are locatable. It will become an issue if you aren't," he said.

Cornish said he sees a similar attitude already regarding e-mail addresses and pagers. "If you tell people you don't have an e-mail address, they ask, 'How can we contact you?' Some employers now require staff to wear pagers, to be locatable. Someday, they may require chips.

ORWELL 1984 1990?

PacificSun
Week of May 4, 1990
THE MARIN HUMANE SOCIETY

An ID tag that won't get lost

By Mary Wright

When Tammy Adin of Novato found two collars half-buried in a muddy hole under her backyard fence, her heart dropped. Both of her dogs, Sandy, a five-year-old Shepherd mix and Buddy Holly, recently adopted from the Marin Humane Society, had dug a hole under the fence, squirming out of their collars in the process, and headed for the hills.

Adin searched everywhere, placed lost dog posters throughout the county, checked with the Marin and Sonoma Humane Societies every day, and even hired a private eye for pets to help track them down. After five days, Sandy showed up on his own, his pads bloody and worn. But Buddy Holly was nowhere to be found.

A few days later, a couple of hikers found a stray miniature pinscher roaming aimlessly on a fire road in the Novato hills. They brought the frightened dog to the shelter, where he was routinely scanned with an Infopet scanner. At the sound of a beep, a 10-digit number appeared on a screen identifying the ~~dog~~ as Buddy Holly. MAN?

For nearly a year, the Marin Humane Society has been implanting every dog and cat adopted from the shelter with an Infopet microchip I.D., a high-tech answer to the age-old problem of permanently identifying your beloved ~~pet~~. Neighbor ?, ??

The microchip, about the size of an uncooked grain of rice, is encased in biomedical grade glass. The chip is imprinted with a ten-digit alpha-numeric code and is implanted by simple injection between the animal's shoulder blades. With the wave of a hand-held scanner, the chip is activated to transmit the code to a computer which provides the owner's name and address, any relevant medical information and, most importantly, the owner's phone number.

Since May, the Marin Humane Society has recovered 16 animals with microchip I.D.'s. Some of the animals had no other form of identification, despite the fact that a few were wearing collars with both license and I.D. tags before being reported missing.

Thomas Fortmuller credits his brother-in-law, a Fremont veterinarian, and the Marin Humane Society with reuniting him with his cat, Meitzi, who wandered off while he was on a job site in Sausalito. If it weren't for the microchip implanted in Meitzi just days before she ran away. Fortmuller doubts she would be alive today.

Sumner W. Fowler

A microtag provides permanent identification for your pet. or child ? ??

"I kept thinking Meitzi would turn up on her own," said Fortmuller, "You know how cats are."

Unfortunately, shelters are all too familiar with the fact that people do not place I.D. tags on their cats and do not make a "dogged" effort to search for them when they are missing. In 1989 alone, 2,146 lost cats waited at the Marin shelter for owners who never came.

"It's a tragedy," says Humane Society executive director Diane Allevato. "While the percentage of dogs that are returned to their owners is nearly 80 percent at our shelter, the redemption rate for cats ranges from an abysmal 7 to 20 percent."

In the year and a half since Infopet began offering the service, 10,000 pets have been microtagged in California, Oregon, Missouri, Massachusetts, Arizona and Canada.

In California, 160 veterinarians are currently implanting microchips for their clients' pets. Marin veterinarians who offer the service are Bel Marin Animal Hospital; Madera Hospital; the Marin Humane Society Spay and Neuter Clinic; Northbay Animal Hospital and Tamalpais Pet Hospital, Inc.

The microchip, its insertion and a year of registration cost $40. A small price to pay according to Liz Greenberg of Ignacio. Greenberg, whose purebred golden retriever, Beau, was purchased from a breeder for more than $500, decided to have Beau microtagged so that if he were to end up at the shelter without his collar, the Humane Society would know who to call.

Greenberg's instincts were proven right last September when Beau turned up at the shelter.

"I'm very glad that I did it," said Greenberg, "It's really a silly thing *not* to do."

Mary Wright is associate director of public relations for the Marin Humane Society.

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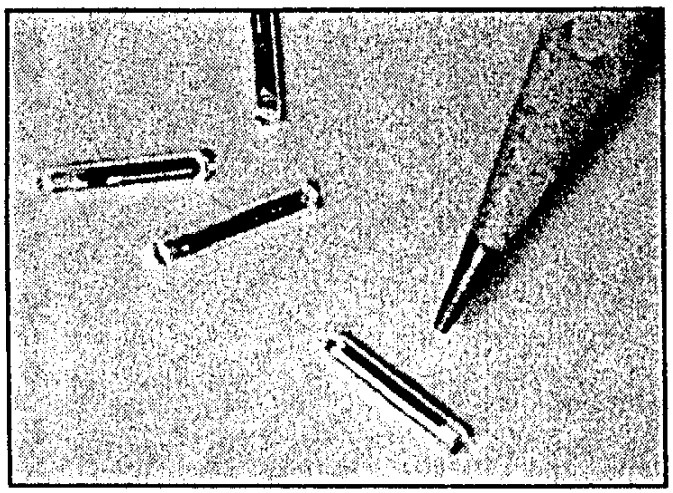
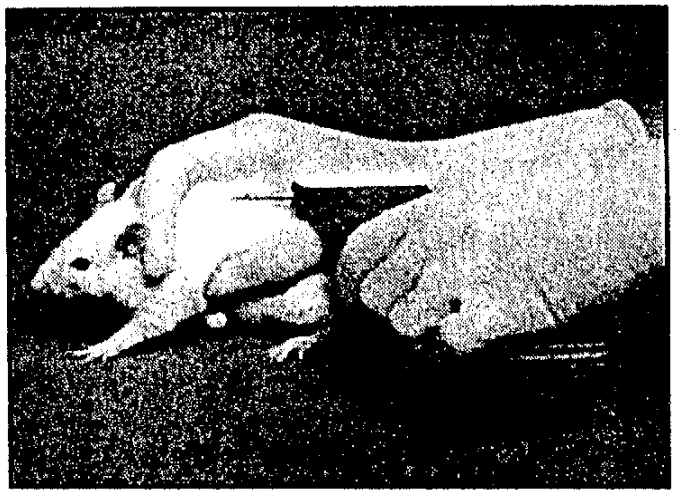
Implantable Biochips and The End of Human Freedom and Dignity





Implantable biochips are getting smaller and more powerful. At right, a laboratory mouse has a biochip injected into its body.

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chip implant in
/ill the biochip
ossible the sur-
ıcking of people
ɔrs and satellites
ɔd together with
ıper-computer

rrs documents
States govern-
ıg on such a system at this very moment. By the year
fully implemented. Many animals *and* some human
ıdy having biochips implanted. Almost all of the people
e unsuspecting victims. Biochips were surgically inserted
ands, foreheads, ears, brains, or buttocks without their

nd foreign intelligence agencies are taking this technology
further. They fully intend to use implantable biochips
ıan, woman, and child into a controlled slave. Through
chip brain implants, people will think and act exactly as
d. What a tremendous bonanza for the coming Antichrist!
into a man or woman's brain and he or she instantly

Future Society
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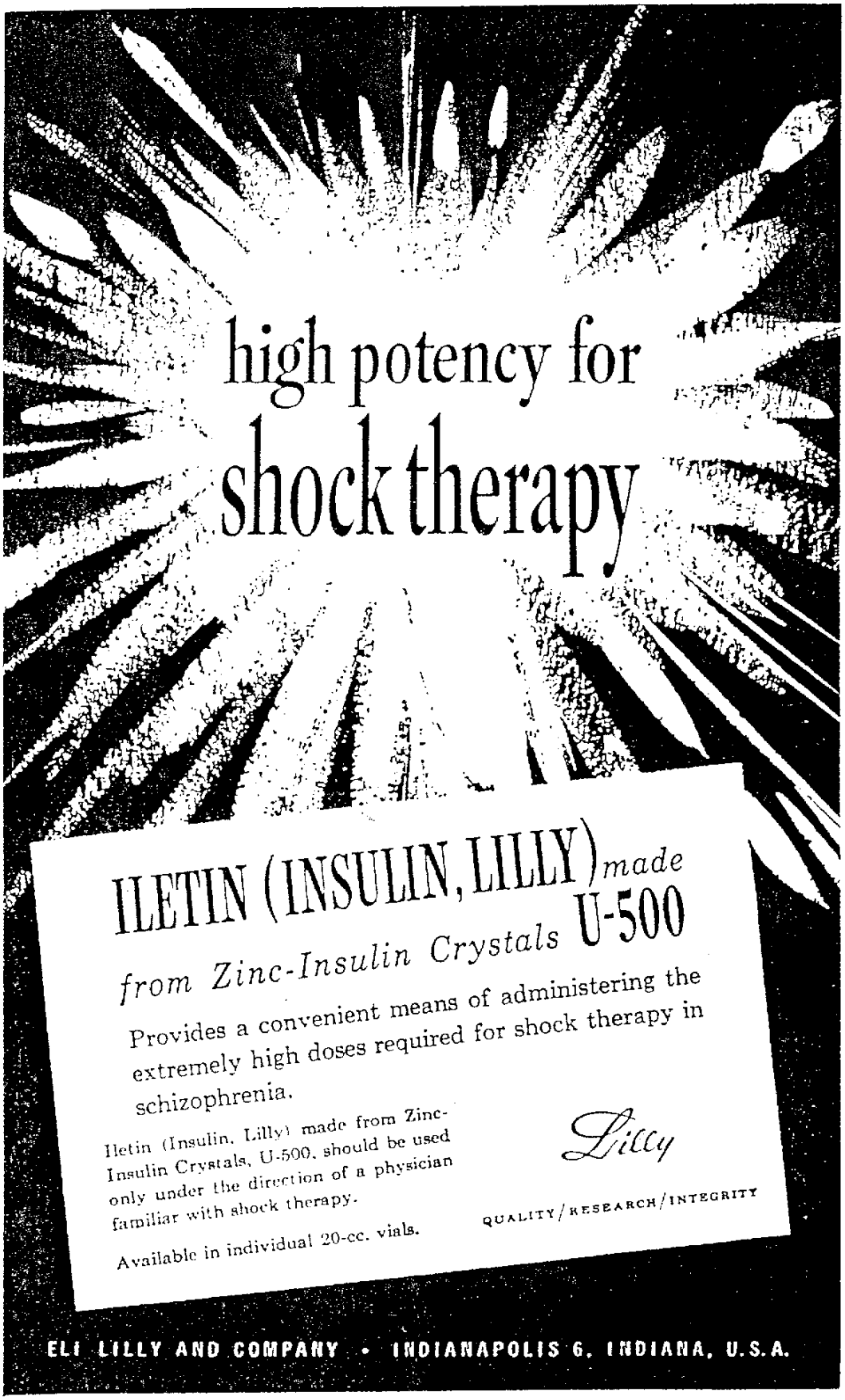
versal type of *identification card.*"

A top *White House* official, addressing a high tec
sponsored by IBM, stated: "The smart card is a wonde
even better would be *a chip in your ear*... We need to
narrow conceptualization of the smart card and really us
technology that's out there."

Science News, an authoritative scientific journal
"New electronic techniques have been developed to eav
brain. The technique allows outsiders to influence the
cell conversations and to talk directly with the indiv
neurons."

The Wall Street Journal says that a U.S. Naval resea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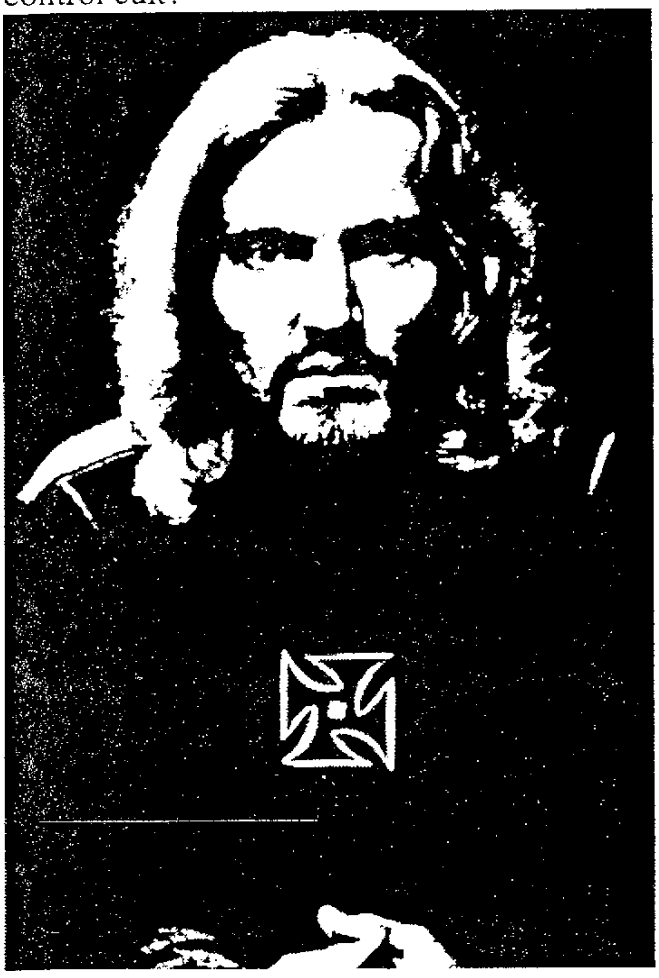
Charles Manson: Leader of a mind control cult?



Robert DeGrimston Moore, founder of The Process.

Mind Control
and
Satanic Ritual Abuse

Also see MKULTRA docs related to creation of,
infiltration of and experimentation on cults,
referred to in documentation as "closed societies"

The Search for the Manchurian Pre-Schooler

by Alex Constantine

The debris of Berlin smoldered. With a little practice, Richard Nixon, an obscure black market rubber dealer, mastered the V for Victory salute.

And the American intelligence "services" quietly courted Nazis and their Quislings in the Soviet satellites. Some 5,000 European fascists, according the the *Washington Post*, June 9, 1982, quietly emigrated to the United States. In the nascent days of television, young Ronald Reagan's fund-raising acumen was tapped by the Crusade for Freedom, a CIA front. The "conservative" celluloid cut-out appeared in a cameo spot to talk viewers out of their hard-earned dollars to fund the migration of East European "freedom fighters" to the United States — these paragons were really diehard Nazis. The CIA, Pentagon and an army of Nazi recruits have since consummated an ideological bond that has held in sickness and in stealth.

In 1950 the Agency geared up for a battery of mind control experiments on human guinea pigs, underwritten by a network of scientific foundations and academic fronts. Neuropsychiatrists at Tulane, McGill, Yale, UCLA and Harvard, some of them laboring beside Nazi imports, researched the use of brain implants to control behavior. Dozens of books and articles have since appeared describing grim laboratory experiments — none chronicle the use of children in the Firm's's mind control initiative (possibly because journalists never imagined children could be used in such a bloodthirsty manner).

A monograph written in the 1960s by Dr. Jose Delgado, a Yale psychiatrist hailing from Franco's Spain, detailed his experiments on an 11-year-old boy with electrodes implanted in his brain. Dr. Delgado stimulated his young subject's synapses with a radio transmitter at a range of 100 feet. The boy immediately lost his sexual identity, reporting that he wasn't sure if he was male or female. One child said that she'd been instructed to address her CIA programmer as "Herr Doctor."

Some of the children subjected to the experimentation, according to New Orleans psychologist Valerie Wolf, were fragmented by trauma-based programming into a spate of alternate personalities. "Most of these patients responded to certain sounds," Wolf reported in testimony to the President's Advisory Committee on Radiation Experiments in March 1995, "clickers, metronomes or just clicking the tongue or hand clapping. Patients would vacillate from calm to robotically asking, 'Who do you want me to kill?' They were triggered to attempt suicide and attack the therapist, or march out of the office in a fugue state to assassinate somebody.

Claudia Mullens, a survivor of the experiments, testified at the Advisory Committee hearings about a trip in 1959 to the Deer Creek camp in Maryland, then used to train child prostitutes for sexual blackmail operations. At the camp, she was the "guest" of a Mr. Sheiber, an alias of the CIA's notorious LSD*meister* Dr. Sidney Gottlieb:

> Most of the men I came to know well, were either there as observers or volunteer targets. We were taught different ways to please men and at the same time ask questions to get them to talk about themselves. Then we had to recall everything about them. . . .
>
> After this trip, I mainly went to hospitals, Army or Air Force bases or universities or the hotels in New Orleans and a place called the TRIMS facility in Texas.

The sole CIA official not briefed on the cabin and Dr. Gottlieb's child sex ring was John McCone, a former director who might have objected to the use of 7-year-old girls to gather information and ply their training in sexual "coercive techniques."

Weeping in the Playtime of Others, by former Princeton scholar Ken Wooden, describes a mental institution near Dallas, Texas that conducted freakish sensory deprivation experiments on retarded children:

> On the grounds I noticed a strange structure with heavy black plastic covering all the windows. That evening, a former house parent told me it was the private domain of a Dr. Snapp, who believes that the children are not retarded, but that their intellectual development has been aborted by *birth*. Dr. Snapp believes he has restructured the mother's womb with totally darkened rooms, and he places the child there to grow.
>
> Donna Parrish came close to dying in her "womb." When her parents removed her after four weeks in this atmosphere, they found her body covered with sores.

"Most patients," Wolf testified at the hearings, "reported neo-Nazi alter personalities who believed in the coming of the next

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chologists, mostly from the western states, convened at the Biltmore Hotel in Los Angeles for a three-day conference on "Mind Control, Multiplicity and Ritual Abuse." Each of the therapists have patients who have been tormented by cult cut-outs. Conference organizer Catherine Gould, a child psychotherapist from Encino, California, gave the keynote tour of a programmed multiple's "landscape of alters."

"In most instances," Dr. Gould explained, "the alter personalities are cult aligned. They are caught up in the underworld of mind control and know no other life. It isn't unusual for a patient to have an alter who reports to the cult everything said in the last therapy session."

But programmed alters are not the enemy. "They have experienced horror. Sexual abuse may be only one part of the traumatization pattern. Mind control is originally established when the victim is a child under six years old. During this formative stage of development, the perpetrator systematically combines dissociation-enhancing drugs, pain, sexual assault, terror and other forms of psychological abuse is such a way that the child dissociates the intolerable traumatic experience. The exception is the child who cannot dissociate and was exposed to horror, disintegration and psychological death. The mother herself may be a cult multiple and an amnoestic. The worst perpetrator is rage-based, disconnected from the core personality, and the alter may well feel disdain for the victim."

Mind control programming is deeply en- [illegible] sometimes inaudible ones. The alter personalities frequently "live" in the part of the body that has been traumatized. If a child was tortured in the shoulder, this is where an alter lives. "The psychologist's job," Gould says, "is to map the alters and neutralize booby traps — including suicidal impulses — left by the programmer to stop the therapeutic process. The patient is ready to work with *conscious* memories of the trauma and begin healing when he can move around freely in the system of alters."

Vicki Graham-Costain, Ph.D., a clinical child psychologist, discussed the treatment of character pathologies that accompany mind control conditioning, and the sudden "flooding" of memories of childhood torture lurking behind post-hypnotic obstacles to recall, and in some cases, repression. Dr. David Neswald took up programming neutralization strategies, and common roadblocks to overcoming mind control conditioning. "Survivors are told they will be shunned by 'decent' people," Neswald says, "that people will be repulsed by them and never accept them."

The treatment of mind controlled kids is a growing field. Cult abuse of children, Gould wrote in *The Journal of Psychohistory* early last year, "is considerable in scope and extremely grave in its consequences. Among 2,709 members of the American Psychological Association who responded to a poll, 2,292 cases of ritual abuse were reported. In 1992 alone, Childhelp USA logged 1,741 calls pertaining to ritual abuse, Monarch Resources of Los Angeles logged 5,000, Real Active Survivors tallied nearly 3,600, Justus Unlimited [illegible] cluded grand mal epileptic seizures with a temporary cessation of breathing. Doctors managed to strap one survivor to an EEG machine in the midst of a seizure — his brain waves registered normal. The fit was not a true grand mal, but a body memory of electric shocks. ECT, the invention of Dr. Ugo Cerletti, another Spanish fascist, was often used on various parts of the body, Wolf says, "usually the physical places that do not readily show or in tissue that heals quickly."

High technology was combined with drugs, hypnosis and torture to create alter personalities. Years before Silicon Valley introduced virtual-reality computerware, for example, children by the score told psychotherapists they'd been forced to wear goggles that flashed 3-D images of horror and death.

In the mid-'60s, the oligarchs of the Agency feared exposure: Newspaper reporters had caught wind of Auschwitzian behavioral modification research funded by the government. Congress was asking questions. The thugs at Langley scratched their heads. It was only a matter of time before an inquisitive reporter exposed the rot of mind control.

The solution: CIA scientists bugged out of the laboratory and the experiments were moved into the community. Eccentric religious groups were organized or co-opted by intelligence operatives, including the Peoples' Temple, the Symbionese Liberation Army, the Ordo Templis Orientis (OTO), Finders, Michael Aquino's Temple of Set, the Bhagwan Shree Rajneesh Movement, Switzerland's Solar Temple, and Subud, among others.

Subud is a religious sect with roots in Indonesia and the UK, according to confidential informants (active members who submitted to injections of sodium pentothal before questioning). The cult is a cut-out of the American security elite's mind control frat. One of Subud's leading lights is Janet Morris, a science-fiction writer and charter member of the Association for Electronic Defense. She is also research director of the U.S. Global Strategy Council, a Washington think tank founded by ultra-conservatives Claire Booth Luce, General Maxwell Taylor, General Richard Stillwell, former CIA Deputy Director Ray Cline, and the abrasive Jeane Kirkpatrick, among others.

In 1991 Ms. Morris traveled to Russia to study a technological marvel that transmits subliminal command messages over the low frequency infrasound band. Political researcher Armen Victorian discovered that with the Russian "psycho-correction" transmitter, "subliminal messages bypass the conscious level and are effective almost immediately."

Another leading light of the Subud sect is an executive of a major toy company — a leading maker of virtual-reality computer games for children, like the ones used by CIA scientists to traumatize young subjects.

On September 30, 1995, about 100 psy-

The Realist

Spring, 1996
Price: $2
Number 132
Editor: Paul Krassner

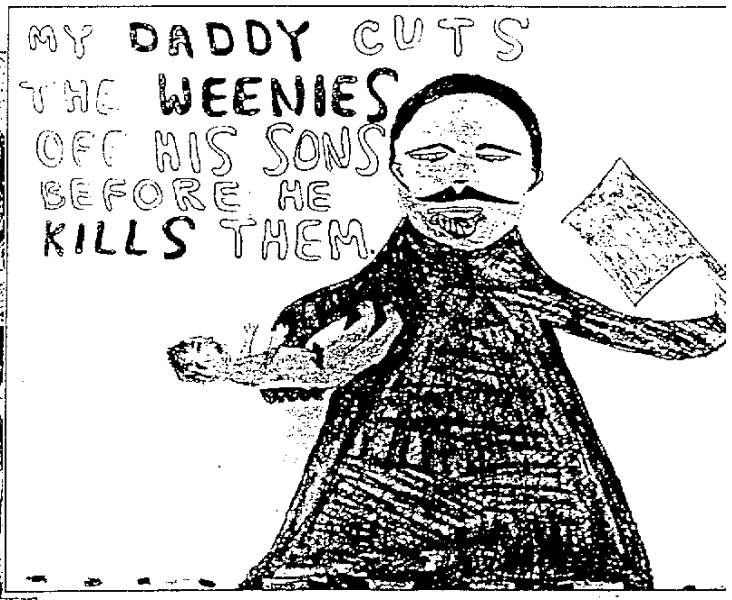
The widespread media coverage was, according to *Los Angeles Times* editor Noel Greenwood, "a mean-spirited campaign" organized to discredit the children and their therapists.[8]

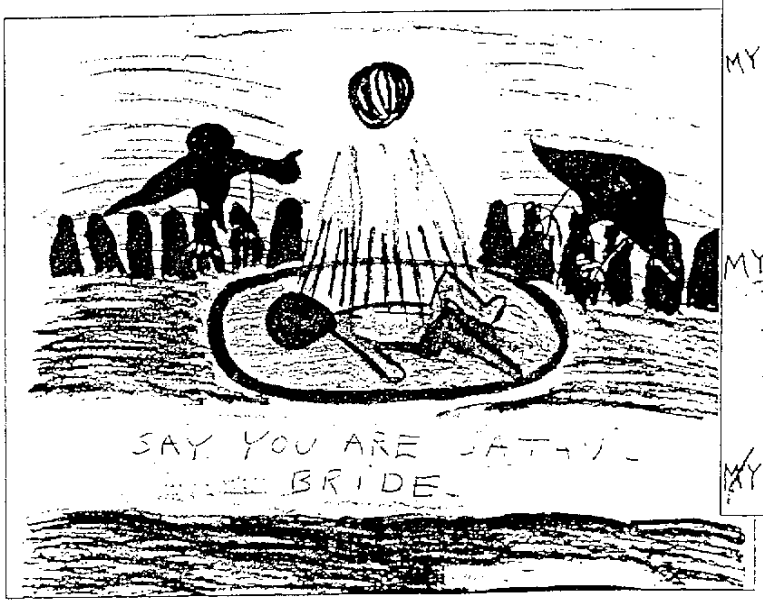
But why should certain members of the corporate press and segments of the legal and psychiatric professions go to such lengths to suppress evidence of organized child abuse at McMartin preschool? Because the traumatic crimes reported by the children bear an uncanny resemblance to mind control programming, a specialty of certain classified federal agencies and cultists on the black budget payroll.[9]

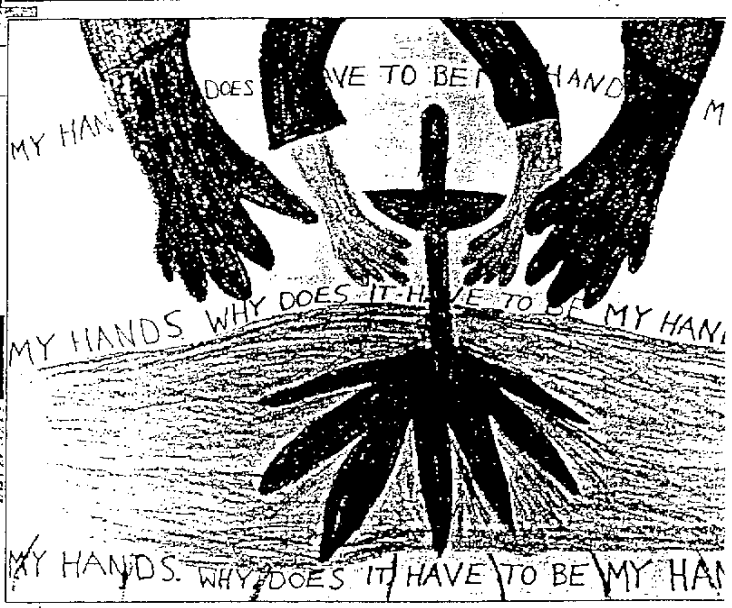
The children are often ridiculed because some of their charges are thought to be impossible. Tunnels under the preschool? Too far-fetched to consider. But, in fact, there were tunnels, confirmed in 1993 by a coalition of five earth scientists from leading universities.

The unearthing of the tunnels, like much of the critical evidence, never made it to the courtroom. They have been discreetly filtered from newspaper accounts.

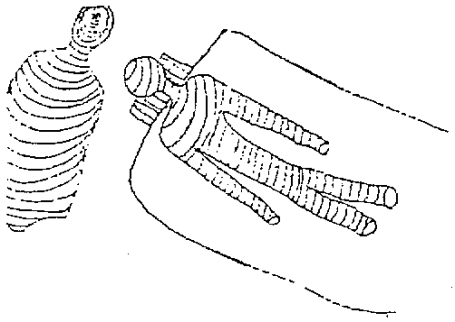
To fill the void, Debbie Nathan, a widely published skeptic of ritual abuse, heaped scorn on the tunnel allegations in the *Village Voice* in June 1990. She maintained the McMartin site had been "painstakingly probed for tunnels" once before. "None were found."[10] Nathan's account is a fabrication.





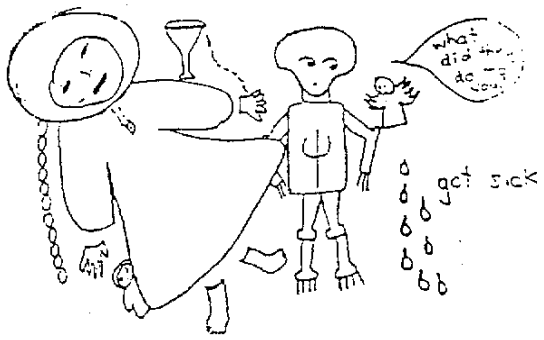


The Notebooks of Lynn Moss-Sharman: In a book of drawings recalling a childhood of experimentation in the 1950s, predating McMartin by thirty years, the allegations are strikingly similar:



"First we make you. Then we break you." A series of techniques. They dislocated my arms at the shoulders, then wrapped me up in bandages. It is a portable sensory deprivation unit. You know who is boss after this. Most of the other "breaking" techniques involved electricity, boxes and other containers.

There were always sacrifices and rituals involving children. The small angel is my internal "observer." Whenever the "angel" showed up, somebody usually got killed. The same man who did the experiments in the hospitals and at the military bases were part of the group of men who went to the rituals and pedophiles.



Sexual bait to blackmail men: I was used for sexual purposes as part of the programming as a little girl. The robotic quality of "I can walk, I can talk" is a result of a series of torture-programming techniques utilizing sensory deprivation, electricity, drugging.

Mind Control
and
Satanism in US Gov't

M.Aquino and Temple of Set
Psywar Military "white paper"

Devil Worshiper Holds Sensitive Army Post and Top Brass Say 'No Problem'

A senior U.S. military intelligence officer with a secret security clearance admits he's also the founder and high priest of a satanic church — and amazingly, the Army says "no problem"!

Lieut. Col. Michael Aquino, a 41-year-old former Green Beret, confirmed to The ENQUIRER that he's been involved in devil worship for 22 years.

By CHRIS FULLER

He said he formed his own satanic church, the Temple of Set, in 1975 after belonging to another sect, the Church of Satan, for the previous 10 years.

"My religion has been no secret in the Army," said Col. Aquino, who served as a psychological warfare specialist in Vietnam and is now a reserve officer working full-time on extended duty at the Army's reserve personnel center in St. Louis. He admitted satanic terminology is used in his church's rituals, adding: "We are quite proud of that."

But William Gill, executive director of the Catholic War Veterans, fumed:

"This is outrageous and a national disgrace!

"It's unbelievable that an admitted devil worshiper should be allowed to hold a senior and sensitive post in the U.S. Army. This abominable situation insults the memory of those who have fought and often died to uphold the traditional values of our great country.

"Citizens have a right to expect our military to uphold the traditional values of God and country — not the evil ramblings of some satanic sect."

Col. Aquino's satanic church is advertised in the yellow pages in San Francisco, where he was stationed from 1981 to 1986. He says most members are in the U.S. and Canada, although "we have a sprinkling of members in places like Western Europe and the Pacific."

The Constitution's guarantee of freedom of religion protects Col. Aquino from action by the Army, said Lieut. Col. Greg Rixon, an Army public affairs officer in Washington, D.C.

"As long as an individual's religious practice remains within the limit of the law, there is no problem," Col. Rixon said.

But Catholic War Veterans director Gill blasted that stand. "For the Army to say 'no problem' is mind-boggling," he said. "This disturbing situation is a problem for everyone who is concerned about national security and morality.

"The U.S. Army is no place for worshipers of the Prince of Darkness!"

EX-GREEN BERET Lieut. Col. Michael Aquino is a high priest of a satanic church.

Satan

Like all so-called devils, Satan began as a god. Early Egyptians called him the Great Serpent Sata, Son of the Earth, immortal because he was regenerated every day in the Goddess's womb. A man could become immortal, like Sata, by repeating prayers to identify himself with the god: "I am the serpent Sata, whose years are infinite. I lie down dead. I am born daily. I am the serpent Sata, the dweller in the uttermost parts of the earth. I lie down in death. I am born. I become new, I renew my youth every day."[1]

Sata seems to have been an underground aspect of the sun, Horus-Ra, corresponding to Apollo's underground serpent-form Python, whom the Jews called Apollyon, Spirit of the Pit. He was a phallic consort of the archaic Goddess Sati, or Setet, whose name was the same as that of a virgin aspect of Kali, and who once ruled Upper Egypt which was known as the Land of Sati.[2] The god was also called Set—the biblical Seth, who may not have been immortal but did manage to live 912 years (Genesis 5:8).

The snake's communion with the life-giving fountains of the deep was still an important image in dynastic times, when Sata became the keheret-snake, living in a yonic orifice in Isis's temple and giving oracles, like Python at Delphi. It was felt that disasters would strike the country if the serpent should leave the Goddess's sacred hole.[3]

The serpent was often a symbol of the sun god's alter ego, the Black Sun, spirit of night or of death. He combined with the solar disc as the god during his dark hours. The pattern was the same in Osiris-Set, Apollo-Python, Anu-Aciel, Baal-Yamm, etc. The dark god was the light god's adversary not because he was originally viewed as evil, but because he represented a sleeping or quiescent phase of the same god.

Sata dwelling forever in the underworld reappeared in Russian folk tales as the great underground serpent Koshchei the Deathless.[4] In his "adversary" role he eventually became the immortal Dragon whom the sun-hero had to slay, as men wished to slay the spirit of death dwelling within their own bodies, the archetypal "betrayer" who led them sooner or later to destruction.

To the Hebrews, a "satan" was an adversary in the sense of a judge: one who tested the faith of another by asking trick questions or posing problems to be solved. The "satan" first appears in the Bible as one of the sons of God, advising God to test the faith of Job (Job 1:6). In the original wording, Satan was one of the *bene ha-elohim,* sons of "the gods"; but Bible translators always singularized the plurals to conceal the fact that the biblical Jews worshipped a pantheon of multiple gods.[5]

This "son of God" was identified with the lightning-serpent Lucifer by the words of Jesus, who claimed to have seen Satan descending into the earth as lightning (Luke 10:18). This repeated Persian myths concerning Ahriman, the lightning-serpent cast from heaven to the underworld by the god of light. Persians held that God and the Great Serpent were twin brothers, an idea that entered into Gnostic tradition and led to medieval magic books that called upon Satan by the mystic names of God, such as Messias, Soter, Emmanuel, Saboth, Adonai (Messiah, Savior, Immanuel, Lord of Hosts, the Lord).[6]

Satan not only answered to God's names, he even assumed a divine appearance when he wished. The medieval church insisted that Satan "transfigures himself into an angel of light," so anyone claiming an unofficial angelic vision could be charged with devil worship at the discretion of inquisitors—who, naturally, always knew the difference between a real angel and a devil in angelic disguise.[7]

David Blondel
Theologian who wrote *Pseudo-Isidorus et Turrianus Vapulantes* (Geneva, 1628) to demonstrate the spurious nature of earlier defenses of the False Decretals.

Lorenzo Valla
15th-century Italian humanist and critic of the church, employed as a secretary to King Alfonso V of Sicily, who protected Valla from the Inquisition. Later, he was reconciled to the papacy and even appointed an apostolic secretary by Pope Nicholas V.

we hand over and relinquish our palaces, the City of Rome, and all the provinces, places, and cities of Italy and the regions of the West to the most blessed pontiff and Universal Pope, Sylvester." But the real composer of the Donation, a papal official named Christophorus, made serious historical mistakes. He made Constantine call himself conqueror of the Huns, fifty years before they appeared in Europe. He called the bishop of Rome "pope" two hundred years before the title was used.[2]

Lorenzo Valla proved the spurious nature of the Donation as early as 1440. He wrote: "Even if it had been genuine, it would by now have been rendered void by the crimes alone of the Papacy, through whose avarice Italy has been plunged in constant war."[3] The church refused to admit the fraud until nearly four centuries later. A Greek saying was that the chief industry of papal Rome was fabrication of false documents. After setting the precedent, "Nearly every pontificate will add its supplement of false documents to this formidable *corpus* whence the theologians, St. Thomas Aquinas among them, will for a long period confidently derive the justification for whatever the Roman Pontiffs may desire to do or say."[4] The Gospels themselves were forged as required to uphold privileges and practices of the early church. "We must never forget that the majority of the writings of the New Testament were not really written or published by those whose names they bear."[5]

After burning books and closing pagan schools, the church dealt in another kind of forgery: falsification by omission. All European history was extensively edited by a church that managed to make itself the sole repository of literary and historical records. With all important documents assembled in the monasteries, and the lay public rendered illiterate, Christian history could be forged with impunity.

1. White 2, 314. 2. Chamberlin, B. P., 14–15. 3. Chamberlin, B. P., 166.
4. Guignebert, 249. 5. Stanton, 106.

Fork

Furka

"Furka" or "fork" described the so-called lost letter of the Greek alphabet, *digamma,* a double gamma having the sound of F. Its Sanskrit name was *forkwas,* linguistic root of the two trees on which dying gods were sacrificed: Norse *fyr* (fir) and Latin *quercus* (oak).[1] The Egyptian furka was the Y-shaped cross on which the god Set was crucified. It was also a phallic symbol of the god's sacred marriage.[2] The "thieves' cross" in Christian iconography had the same shape. Such crosses flanking Jesus's cross may have represented sacred marriage. The Y-shaped fork was sometimes regarded as a female genital symbol, in conjunction with the male trident or three-pronged fork.[3]

The voodoo savior-god Legba characteristically used as his crutch a derivative of the sacred furka of Set.[4]

1. Potter & Sargent, 230. 2. Campbell, M. I., 29. 3. de Lys, 233.
4. Martello, 164.

Ass

The ass-god Pales had an extensive cult throughout the ancient world. Palestine, Philistia, and the Palatine Hill in Rome were named for Pales, who was both male and female.[1]

The Old Norse word *Áss* meant both "Asian" and "deity," possibly indicating that the divine ass originated in Asia.[2] The pre-Vedic sacred king Ravana sported ten crowned human heads surmounted by one ass head, symbolizing the spirit of the ass god incarnate in ten kings.[3] The long ears of the ass seem to have had the same significance of virility in ancient India as the horns of the sacred bull or stag.[4]

Tacitus said the Jews worshipped the ass because wild asses were responsible for their survival in the desert.[5] According to Genesis 36:24, it was the tribal matriarch Anah, or Hannah, who first found asses in the wilderness. Balaam's oracular she-ass may have been a manifestation of the spirit of Anah, as Balaam himself was another name for Baal. Samson slew the Philistines with an ass's jawbone, the same bone still regarded as a seat of the soul by some African tribes.[6] Jesus entered Jerusalem on an ass's colt, symbol of the New Year. The *lilim* or Children of Lilith were ass-haunched, for they were spirits left over from the real source of the Jewish ass-cult: Egypt, home of the ass-headed god Set, or Seth.

Cornelius Tacitus
Roman historian and rhetorician, ca. 56–120 A.D.

Set once ruled the dynastic gods, and in token of his sovereignty displayed a pair of ass's ears at the tip of a reed scepter. The Hyksos kings of Egypt revived Set's cult in the 2nd millenium B.C., perhaps because their own ass-eared Midas was a similar god-king. The annual alternation of Set and his brother Osiris (or Horus), who murdered each other in perpetual rivalry for the favors of Isis, reflected constant replacement of sacred kings in pre-dynastic times.[7]

Ass-eared king Midas, a son of Cybele, died of drinking bull's blood. In other words, he was connected with the Taurobolium or bull-sacrifice made in honor of both Cybele and Isis. Midas has been identified with Mita ("Seed"), a king of the Moschians or "calf-men," who invaded the country of the Hittites from Thrace during the second millenium B.C. Midas's Golden Touch and ass's ears link him with the cult of Set and the Golden Calf (Horus), whose image was worshipped by the Israelites (Exodus 32:2-4).

Under Egypt's Hyksos kings, Set was a god of the hot desert wind, known as the Breath of the Ass. He was "Lord of the Chambers of the South," whence storm winds came.[8] His wind from the desert was supposed to bring pestilence, i.e., typhus, derived from Set's Greek name, Typhon. This name was interlingual and world-wide. It meant both the ass god and the wind called *tufan* in Arabic and Hindustani; *t'ai fung* in Chinese; and *tuffoon* or *Typhoon* in the South Pacific.[9]

Ass-headed Set was a sacrificial deity in the cult of Horus and Osiris. He was crucified on a furka and wounded in the side.[10] He and Horus were represented as alternating year-gods who fought and castrated one another, each being baptized in the blood of the other's "phallic eye," as the Pyramid Text said: "Horus is purified with the Eye of his brother Set; Set is purified with the Eye of his brother Horus."[11] The Eye or phallus passed from one to the other. A statue of Horus at Coptos carried Set's severed phallus in his hand.[12] After castrating Set, Horus spread his blood on the fields to render them fertile—the usual fructification-by-male-blood found in the oldest sacrificial Mysteries.[13]

Thus, Set and Horus were remnants of a primitive sacred-king cult, which the Jews adopted. The story of the rival gods appeared in the Bible as Seth's supplanting of the sacrificed shepherd Abel, evidently the same "Good Shepherd" as Osiris-Horus (Genesis 4:25). Their rivalry was resolved in Egypt by having the pharaoh unite both gods in himself. Tomb paintings of Rameses IV showed him as both Set and Horus, two heads set upon one neck.[14]

Similarly, the Jewish God uniting both Father and Son was sometimes an ass-headed man crucified on a tree. This was one of th earliest representations of the Messiah's crucifixion. Some said Christ was the same as the Jewish ass-god Iao, identified with Set.[15] Jews in Rome were said to worship an ass's head as their deity.[16]

The Roman cult of the ass apparently originated in Libya, home c the bisexual Pales, whose temple stood on the Palatine Hill and gave rise to the word "palace."[17] Servius said Pales was a Goddess, the Diva Palatua, a disguise of Vesta. Others said Pales was either a female protectress of herd animals, or Vesta's male consort. In the first two centuries A.D., Pales was worshipped as a priapic god at the festival of the Palilia, traditional date of the founding of Rome, when the Palladium was brought to Vesta's temple.[18] Priests of Pales wore ass-head masks as they danced in honor of the long-eared deity. The Palilia was taken into the Christian calendar as the Feast of St. George. One of its old customs may have given rise to the Halloween game of "Pin the Tail on the Donkey," which recalls Rome's sacrifices of equine tails triumphantly carried to the temple of Vesta.[19]

1. *Larousse*, 209. 2. Turville-Petre, 23. 3. Norman, 123. 4. Rawson, E.A., 25. 5. Tacitus, 658. 6. *Book of the Dead*, 270–71. 7. Graves, G.M. 1, 283–54. 8. Graves, W.G., 301. 9. *Encyc. Brit.*, "Typhoon." 10. Campbell, M.L., 29. 11. Norman, 42. 12. Knight, S.L., 124. 13. Budge, G.E. 2, 59. 14. Norman, 38, 48. 15. M. Smith, 62. 16. Guignebert, 53. 17. Briffault 3, 18. 18. *Larousse*, 209. 19. Dumézil, 221.

amid Texts Collections of prayers, ons, and magic ls inscribed on the er walls of the mids at Saqqarah kara), dating n the 5th through dynasties.

Assassins

European mispronunciation of the Saracenic brotherhood of *hashishim*, "hashish-takers," who fought Christian crusaders in the Holy Land. See **Aladdin**.

Astarte

Lady of **Byblos**, one of the oldest forms of the Gr Middle East, identified with Egypt's Hathor, M Cyprus's Aphrodite.

Her shrine at Byblos dated back to t throughout the Bronze Age.[1] She was and-destroying Goddess worshipped still typified by Kali as the symbo sovereign of the world," tirele

DEPARTMENT OF THE ARMY
UNITED STATES ARMY CRIMINAL INVESTIGATION COMMAND
5611 COLUMBIA PIKE
FALLS CHURCH, VA 22041

REPLY TO ATTENTION OF

CIPP-PD

SUBJECT: Possible Adverse Suitability Information

HQDA (DAMI-CIS/Mr. Dill)
WASH DC 20310

1. Ref telecon LTC Jones and Mr. Burkley.

2. LAW referenced telecon the following information is provided:

a. On 21 July 1981 the undersigned was contacted by Officer Sandi Daly, Intelligence Unit, San Francisco, CA, Police Department (Phone: (415) 553-1133). She related that in the course of an investigation of an alleged satanic cult known as the "Temple of Set," she came across information that the leader of the group, a Michael A. Aquino, DOB 16 October 1946, 2430 Leavenworth Street, San Francisco, was allegedly a major in the US Army Reserve associated with a military intelligence unit in the San Francisco area. Further, two other members of the group, a Dennis Mann (NFI) and a Willie Browning (female - NFI) were also USAR officers associated with an MI unit in the Los Angeles, CA, area.

b. An informal check with RCPAC reveals that their rolls contain personnel with the names indicated and that Aquino is a Major, Armor, and Mann and Browning, Captains, Military Intelligence.

3. Officer Daly was advised of the fact that a possiblity existed that her information was accurate and that since it was not a criminal matter, military intelligence would be advised and would likely contact her. She indicated a willingness to share any information which they had developed.

T. C. JONES
Lieutenant Colonel (P), GS
Chief, Investigative Policy and
Studies Division

Declassified

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AFIN-CSP (Undated) 2d Ind
SUBJECT: Possible Adverse Suitability Information

FORSCOM, Fort McPherson, GA 30330 23 November 1981

TO: SEE DISTRIBUTION

1. References:

a. AR 604-5.

b. CCF, LOI 80-1

2. Forwarded as a matter possibly pertaining to a member of your command, if local resources reveal information warranting action under reference b above.

3. Additionally, request compliance with paragraph 3, 1st Indorsement, with copy sent to this headquarters.

4. The names mentioned in basic communication have been tentatively identified as follows, based on data from RCPAC and CCF:

a. AQUINO, Michael A., MAJ, 568-66-9015
DPOB: 16 Oct 46, CA
Address: 2430 Leavenworth St, San Francisco, CA 94133
BI, 11 Mar 80: TS 9 Jun 81
Assigned: Presidio of San Francisco, CA
Directorate, RC Support

b. MANN, Dennis K., CPT, 565-62-9323
DPOB: 8 May 46, CA
Address: 20729 Eagle Pass Dr, Malibu, CA 90256
CCF Check: 67 AIRR Dossier
Assigned: SIXTH US ARMY (USAR)
306th PSYOPS Bn
Bldg 415
Fort McArthur, San Pedro, CA 90731

c. BROWNING, Willie M., CPT, 458-78-8810
DPOB: 15 May 46, TX
Address: Unknown
SBI, 15 Sep 77, TS/SI, 12 Oct 77
Assigned: FORT HOOD, TX
2 ARMHC HHC Div
ATTN: G2 (SSO)

FOR THE COMMANDER:

~~FOR OFFICIAL USE ONLY~~

GEORGE E. DURHAM
LTC, GS
Asst Adj Gen

Declassified

AFIN-CSP (Undated) 2d Ind
SUBJECT: Possible Adverse Suitability Information

23 November 1981

DISTRIBUTION:

Commander
Sixth US Army
ATTN: AFKC-OP-IS (Mr Miyoshi)
Presidio of San Francisco, CA 94129

Declassified

Commander
Ft Hood
ATTN: AFZF-DS-S (Mr Hoffman)
Fort Hood, TX 76544

Commander
Presidio of San Francisco
ATTN: AFZM-PTS-1 (Ms Liston)
Presidio of San Francisco, CA 94129

CF:
1. DA, DAMI-CIS (Mr Pell)
2. CCF-A

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DAMI-CIS(Undated) 1st Ind
SUBJECT: Possible Adverse Suitability Information

HQDA(DAMI-CI), Washington, DC 20310 18 Nov 81

TO: Cdr, US Army Forces Command, ATTN: AFIN-CS, Ft McPherson, GA 30330

1. Confirming fonecon (Mr. Honea, FORSCOM/Mr. Pell, OACSI) concerning subject, 16 November 1981, forwarded herewith letter from USACIDC for your information and necessary action.

2. A check of the files of the Federal Bureau of Investigation concerning the Temple of Set reflected no record of such an organization.

3. Request this office be advised of your findings concerning the allegations noted in basic letter.

FOR THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE:

for DONALD P. PRESS
Colonel, GS
Director of Counterintelligence

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AFXC-OP-IS (illegible) 1st Ind
SUBJECT: Possible Adverse Suitability Information

HQ, SIXTH US ARMY, Presidio of San Francisco, CA 94129 9 DEC 1981

TO: Commander, US Army Forces Command, ATTN: AFIN-CSP, Fort McPherson, GA 30330

1. Returned without action.

2. Information mentioned in paragraph 2, basic letter, concerning Michael A. Aquino, was favorably adjudicated and Top Secret clearance granted 9 June 1981 by the US Army Central Personnel Security Clearance Facility.

3. Recommend the investigative file pertaining to Michael A. Aquino be reviewed at the US Army Central Personnel Security Clearance Facility, Fort George G. Meade, Maryland 20755.

FOR THE COMMANDER:

JOHN W. RICHARDS
LTC, GS
Chief, Intelligence and Security

Declassified

AFIN-CSP (undated) 4th Ind
SUBJECT: Possible Adverse Suitability Information

FORSCOM, Fort McPherson, GA 30330 18 December 1981

TO: Commander, HQDA, (DAMI-CI), Washington, DC 20310 (Mr Fell)

1. Attention is invited to previous indorsement.

2. The same "not unfavorable" and inconclusive information is generally reported telephonically from other recipients of our 2d indorsement re allegations in basic letter.

FOR THE COMMANDER:

GEORGE E. DURHAM
LTC, GS
Asst Adj Gen

CF: PCCF-A

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MEMO FOR FILE #81-776 Dated July 1, 1981

Intelligence: Temple of Set

History:

The Temple of Set is a satanic group under the leadership of Michael A. Aquino. It is a splinter spin off group from Anton LaVey's Church of Satan in San Francisco. They separated from LeVey's organization when that organization was undergoing a metamorphis in 1975. It is a small group but nonetheless has several hundred members, and operates on a National level.

Aquino is the official head of the organization and rules the organization through a council of nine, who are in fact his chief lieutenants.

An interesting aspect of the Temple of Set is its seeming obsession with the military. One aspect of this obsession is the group's fascination with the Nazi movement with many of them wearing, on occasion, World War II German uniforms and insignia. A more sinister aspect of their military fascination is in the fact that Michael Aquino holds a commission as a major in the U.S. Army reserve with his military specialty being Military Intelligence. He purports to his members that he reports directly to the Joint Chiefs of Staff. This is probably a gross exaggeration but it is a fact that he holds a major's commission and deals in the area of Military Intelligence. Two of his lieutenants, a female named Willie Browning is also a Captain in the U.S. Army Reserve in an Intelligence Unit out of Los Angeles. Another lieutenant in his group is a reserve U.S. Army officer named Dennis Mann. He too is involved in Intelligence activities.

ORDER OF THE TRAPAZOID

Aquino, Michael A.

Michael Aquino, as previously stated, is the espoused head of the Temple of Set. He is apparently well educated and holds a PhD in Political Science, and is a Professor at Golden Gate College in San Francisco. His specialty is Western European Political Affairs. Aquino resides on Levenworth St. in San Francisco, the number is believed to be 2430. He resides at that address with his girlfriend, children of his girlfriends and his mother. His father, separated from the family some time ago and lives in Southern California.

Allegedly, Aquino has sexual identity problems and is known to frequent prostitutes in San Francisco in order to become involved in various forms of Sado-masacistic sexual activities. It is believed that Aquino is bi-sexual.

Projections:

While the Temple of Set was always be definition somewhat bizzare, it seems to be going through its own form of metamorphasis. They are returning to the practice of holding Black Masses, one

of which is scheduled for July 1981 in San Francisco, (at an unknown hotel on Fisherman's Wharf). It is also rumored that the group is becoming potentially more and more violent as it recruits the less intellectual and more undesireable level of people such as some former members of Hell's Angels and similar motorcycle gangs. It is also rumored that they are starting to engage in animal sacrifices. Additionally, Aquino is speaking within the organization, that the time has come for him to make his political moves. This is probably in relation to his position in the Army reserve.

End of memo

Defense Intelligence Agency brief on "Psychotronic Warfare."

TOP SECRET MAG CHANNELS ONLY

DEFENSE INTELLIGENCE AGENCY

PSYCHOTRONIC WARFARE: SPIRITUAL ACCESS

Prepared by U.S. Army
Medical Intelligence Office
DST-03447/82/018

TOP SECRET MAG CHANNELS ONLY

HEADQUARTERS, IMPERIAL STORMTROOPER FORCE
Office of the Chief of Staff
MindWar Center
Hub Four

FINAL VERSION

GOING TO Mil Review (CGSC)
+ Parameters (War College)
+ PSYOP Community.

From PSYOP to MindWar: The Psychology of Victory

- by -

Colonel Paul E. Valley

- with -

Major Michael A. Aquino

LTC John Alexander's Military Review article in support of "psychotronics" - intelligence and operational employment of ESP - was decidedly provocative.[1] Criticism of research in this area, based as it is on existing frontiers of scientific law, brings to mind the laughter that greeted the Italian scientist Spallanzani in 1794 when he suggested that bats navigate in the dark by means of what we now call sonar. "If they see with their ears, then do they hear with their eyes?" went the joke, but I suspect that the U.S. Navy is glad someone took the idea seriously enough to pursue it.

Psychotronic research is in its infancy, but the U.S. Army already possesses an operational weapons system designed to do what LTC Alexander would like ESP to do - except that this weapons system uses existing communications media. It seeks to map the minds of neutral and enemy individuals and then to change them in accordance with U.S. national interests. It does this on a wide scale, embracing military units, regions, nations, and blocs. In its present form it is called Psychological Operations (PSYOP).

Does PSYOP work, or is it merely a cosmetic with which field commanders would rather not be bothered?

Had that question been asked in 1970, the answer would have been that PSYOP works very well indeed. In 1967 and 1968 alone, a total of 29,276 armed Viet Cong/NVA (the equivalent of 95 enemy infantry battalions) surrendered to ARVN or

MACV forces under the Chieu Hoi amnesty program - the major PSYOP effort of the Vietnam War. At the time MACV estimated that the elimination of that same number of enemy troops in combat would have cost us 6,000 dead.[2]

On the other hand, we lost the war - not because we were out-fought, but because we were out-PSYOPed. Our national will to victory was attacked more effectively than we attacked that of the North Vietnamese and Viet Cong, and perception of this fact encouraged the enemy to hang on until the United States finally broke and ran for home.

So our PSYOP failed. It failed not because its principles were unsound, but rather because it was outmatched by the PSYOP of the enemy. The Army's efforts enjoyed some battlefield success, but MACV PSYOP did not really change the minds of the enemy populace, nor did it defend the U.S. populace at home against the propaganda of the enemy. Furthermore the enemy's PSYOP was so strong that it - not bigger armies or better weapons - overcame all of the Cobras and Spookys and ACAVs and B-52s we fielded. The lesson is not to ignore our own PSYOP capability, but rather to change it and strengthen it so that it can do precisely that kind of thing to our enemy in the next war. Better hardware is nice, but by itself it will change nothing if we do not win the war for the mind.

The first thing it is necessary to overcome is a view of PSYOP that limits it to routine, predictable, over-obvious, and hence marginally effective "leaflet and loudspeaker" applications. Battlefield devices of this sort have their place, but it should be that of an accessory to the main effort. That main effort cannot begin at the company or division level; it must originate at the national level. It must strengthen our national will to victory and it must

attack and ultimately destroy that of the enemy. It both causes and is affected by physical combat, but it is a type of war which is fought on a far more subtle basis as well - in the minds of the national populations involved.

So let us begin with a simple name change. We shall rid ourselves of the self-conscious, almost "embarrassed" concept of "psychological operations". In its place we shall create MindWar. The term is harsh and fear-inspiring, and so it should be: It is a term of attack and victory - not one of rationalization and coaxing and conciliation. The enemy may be offended by it; that is quite all right as long as he is defeated by it. A definition is offered:

> MindWar is the deliberate, aggressive convincing of all participants in a war that we will win that war.

It is deliberate in that it is a planned, systematic, and comprehensive effort involving all levels of activity from the strategic to the tactical. It is aggressive because opinions and attitudes must be actively changed from those antagonistic to us to those supportive of us if we are to achieve victory. We will not win if we content ourselves with countering opinions and attitudes instilled by enemy governments. We must reach the people before they resolve to support their armies, and we must reach those armies before our combat troops ever see them on battlefields.

Compare this definition with that of psychological warfare as first offered by General William Donovan of the OSS in his World War II-era "Basic Estimate of Psychological Warfare":

> "Psychological warfare is the coordination and use of all means, including moral and physical, by which the end is attained - other than those of recognized military operations, but including the psychological exploitation of the result of those recognized military actions - which tend to destroy the will of the enemy to achieve

> victory and to damage his political or economic capacity to do so; which tend to deprive the enemy of the support, assistance, or sympathy of his allies or associates or of neutrals, or to prevent his acquisition of such support, assistance, or sympathy; or which tend to create, maintain, or increase the will to victory of our own people and allies and to acquire, maintain, or to increase the support, assistance, and sympathy of neutrals."[3]

If the euphemism "psychological operations" resulted from, as one general officer put it in a 1947 letter, "a great need for a synonym which could be used in peacetime that would not shock the sensibilities of a citizen of democracy", then it may have succeeded domestically.[4] On the other hand it does not seem to have reassured the sensibilities of the Soviets. who in 1980 describe U.S. Army PSYOP as including:

> "... unpardonable methods of ideological sabotage including not just flagrant lies, slander, and disinformation, but also political blackmail, provocation, and terror."[5]

The reluctance with which the Army has accepted even an "antiseptic" PSYOP component is well-documented in Colonel Alfred Paddock's brilliant treatise on the history of the PSYOP establishment. Again and again efforts to forge this weapon into its most effective configuration were frustrated by leaders who could not or would not see that wars are fought and won or lost not on battlefields but in the minds of men. As Colonel Paddock so aptly concludes:

> "In a real sense, the manner in which psychological and unconventional warfare evolved from 1941 until their union as a formal Army capability in 1952 suggests a theme that runs throughout the history of special warfare: the story of a hesitant and reluctant Army attempting to cope with concepts and organizations of an unconventional nature."[6]

According to present doctrine, PSYOP is considered an accessory to the main effort of winning battles and wars; the term generally used is "force multiplier". It is certainly not considered a precondition to command decisions. Thus PSYOP cannot predetermine the political or psychological

effectiveness of a given military action. It can only be used to paint that action in the best possible colors as it is taken.

MindWar cannot be so relegated. It is, in fact, the strategy to which tactical warfare must conform if it is to achieve maximum effectiveness. The MindWar scenario must be preeminent in the mind of the commander and must be the principal factor in his every field decision. Otherwise he sacrifices measures which actually contribute to winning the war to measures of immediate, tangible satisfaction. [Consider the rationale for "body counts" in Vietnam.]

Accordingly PSYOP "combat support" units as we now know them must become a thing of the past. MindWar teams must offer technical expertise to the commander from the onset of the planning process, and at all levels down to that of the battalion. Such teams cannot be composed - as they are now - of branch-immaterial officers and NCOs who know simply the basics of tactical propaganda operations. They must be composed of full-time experts who strive to translate the strategy of national MindWar into tactical goals which maximize the effective winning of the war and minimize loss of life. Such MindWar teams will win commanders' respect only if they can deliver on their promises.

What the Army now considers to be its most effective PSYOP - tactical PSYOP - is actually the most limited and primitive effort, due to the difficulties of formulating and delivering messages under battlefield constraints. Such efforts must continue, but they are properly seen as a reinforcement of the main MindWar effort. If we do not attack the enemy's will until he reaches the battlefield, his nation will have strengthened it as best it can. We must attack that will before it is thus locked in place. We must instill in it a predisposition to inevitable defeat. Strategic MindWar must begin the moment war is considered to

be inevitable. It must seek out the attention of the enemy nation through every available medium, and it must strike at that nation's potential soldiers before they put on their uniforms. It is in their homes and their communities that they are most vulnerable to MindWar. Was the United States defeated in the jungles of Vietnam, or was it defeated in the streets of American cities?

To this end MindWar must be strategic in emphasis, with tactical applications playing a reinforcing, supplementary role. In its strategic context, MindWar must reach out to friends, enemies, and neutrals alike across the globe - neither through the primitive "battlefield" leaflets and loudspeakers of PSYOP nor through the weak, imprecise, and narrow effort of psychotronics - but through the media possessed by the United States which have the capabilities to reach virtually all people on the face of the Earth. These media are, of course, the electronic media - television and radio. State of the art developments in satellite communication, video recording techniques, and laser and optical transmission of broadcasts make possible a penetration of the minds of the world such as would have been inconceivable just a few years ago. Like the sword Excalibur, we have but to reach out and seize this tool; and it can transform the world for us if we have but the courage and the integrity to guide civilization with it. If we do not accept Excalibur, then we relinquish our ability to inspire foreign cultures with our morality. If they then devise moralities unsatisfactory to us, we have no choice but to fight them on a more brutish level.

MindWar must target all participants if it is to be effective. It must not only weaken the enemy; it must strengthen the United States. It strengthens the United States by denying enemy propaganda access to our people, and by explaining and emphasizing to our people the rationale for our national interest

in a specific war. Under existing United States law, PSYOP units may not target American citizens. That prohibition is based upon the presumption that "propaganda" is necessarily a lie or at least a misleading half-truth, and that the government has no right to lie to the people. The Propaganda Ministry of Goebbels must not be part of the American way of life. Quite right, and so it must be axiomatic of MindWar that it always speaks the truth. Its power lies in its ability to focus recipients' attention on the truth of the future as well as that of the present. MindWar thus involves the stated promise of a truth that the United States has resolved to make real if it is not already so.

MindWar is not new. Nations' greatest - and least costly - victories have resulted from it, both in time of actual combat and in time of threatened combat. Consider the atomic attacks on Hiroshima and Nagasaki. The physical destruction of those two cities did not destroy Japan's ability to continue fighting. Rather the psychological shock of the weapons destroyed what remained of Japan's national will to fight. Surrender followed; a long and costly ground invasion was averted.

MindWar's effectiveness is a function of its skillful use of communications media, but no greater error could be made than to confuse MindWar with merely a greater and more unprincipled propaganda effort. "Propaganda" as defined by Harold Lasswell "is the expression of opinions or actions carried out deliberately by individuals or groups with a view to influencing the opinions or actions of other individuals or groups for predetermined ends and through psychological manipulations."[7]

Propaganda, when it is recognized as such - and anything produced by a "PSYOP" unit is so recognized - is automatically assumed to be a lie or at least

a distortion of truth. Therefore it works only to the extent that a militarily-pressed enemy is willing to do what we want him to do. It does not work because we have convinced him to see the truth as we see it.

In his "Conclusions" chapter to the Army's exhaustive 1976 case-study of PSYOP techniques, L. John Martin affirms this coldly and bluntly:

> "What all this boils down to is that if our persuasive communication ends up with a net positive effect, we must attribute it to luck, not science ... The effectiveness of propaganda may be even less predictable and controllable than the effectiveness of mere persuasive communication."[8]

Correspondingly propagandists are assumed to be liars and hypocrites, willing to paint anything in attractive colors to dupe the gullible. As Jacques Ellul puts it:

> "The propagandist is not, and cannot be, a 'believer'. Moreover he cannot believe in the ideology he must use in his propaganda. He is merely a man at the service of a party, a state, or some other organization, and his task is to insure the efficiency of that organization ... If the propagandist has any political conviction, he must put it aside in order to be able to use some popular mass ideology. He cannot even share that ideology, for he must use it as an object and manipulate it without the respect that he would have for it if he believed in it. He quickly acquires contempt for these popular images and beliefs ..."[9]

Unlike PSYOP, MindWar has nothing to do with deception or even with "selected" - and therefore misleading - truth. Rather it states a whole truth that, if it does not now exist, will be forced into existence by the will of the United States. The examples of Kennedy's ultimatum to Khrushchev during the Cuban Missile Crisis and Hitler's stance at Munich may be cited. A MindWar message does not have to fit conditions of abstract credibility as do PSYOP themes; its source makes it credible. As Livy once said:

> "The terror of the Roman name will be such that the world shall

> know that, once a Roman army has laid siege to a city, nothing will move it - not the rigors of winter nor the weariness of months and years - that it knows no end but victory and is ready, if a swift and sudden stroke will not serve, to persevere until that victory is achieved."[10]

Unlike Ellul's cynical propagandist, the MindWar operative must know that he speaks the truth, and he must be personally committed to it. What he says is only a part of MindWar; the rest - and the test of its effectiveness - lies in the conviction he projects to his audience, in the rapport he establishes with it. And this is not something which can be easily faked, if in fact it can be faked at all. "Rapport", which the Comprehensive Dictionary of Psychological and Psychoanalytical Terms defines as "unconstrained relations of mutual confidence", approaches the subliminal; some researchers have suggested that it is itself a subconscious and perhaps even ESP-based "accent" to an overt exchange of information. Why does one believe one television newsman more than another, even though both may report the same headlines? The answer is that there is rapport in the former case; and it is a rapport which is recognized and cultivated by the most successful broadcasters.

We have covered the statement of inevitable truth and the conviction behind that statement; these are qualities of the MindWar operative himself. The recipient of the statement will judge such messages not only by his conscious understanding of them, but also by the mental conditions under which he receives them. The theory behind "brainwashing" was that physical torture and deprivation would weaken the mind's resistance to suggestion, and this was true to a point. But in the long run brainwashing does not work, because intelligent minds later realize their suggestibility under such conditions and therefore discount impressions and opinions inculcated accordingly.

For the mind to believe in its own decisions, it must feel that it made

those decisions without coercion. Coercive measures used by the MindWar operative, consequently, must not be detectable by ordinary means. There is no need to resort to mind-weakening drugs such as those explored by the CIA; in fact the exposure of a single such method would do unacceptable damage to MindWar's reputation for truth.[11] Existing PSYOP identifies purely-sociological factors which suggest appropriate idioms for messages. Doctrine in this area is highly developed, and the task is basically one of assembling and maintaining individuals and teams with enough expertise and experience to apply the doctrine effectively. This, however, is only the sociological dimension of target receptiveness measures. There are some purely natural conditions under which minds may become more or less receptive to ideas, and MindWar should take full advantage of such phenomena as atmospheric electromagnetic activity[12], air ionization[13], and extremely low frequency waves[14].

At the root of any decision to institute MindWar in the U.S. defense establishment is a very simple question: Do we wish to <u>win</u> the next war in which we choose to become involved, and do we wish to do so with minimum loss of human life, at minimum expense, and in the least amount of time? If the answer is yes, then MindWar is a necessity. If we wish to trade that kind of victory for more American lives, economic disaster, and negotiated stalemates, then MindWar is inappropriate, and if used superficially will actually contribute to our defeat. In MindWar there is no substitute for victory.

Notes

1. Alexander, Lieutenant Colonel John B., "The New Mental Battlefield: 'Beam me up, Spock'" in Military Review, Vol. LX, No. 12, December 1980.

2. "Chieu Hoi: The Winning Ticket". MACV Command Information Pamphlet 6-69, March 1969.

3. Roosevelt, Kermit (Ed.), War Report of the OSS. New York: Walker and Company, 1976, Volume I, page 99.

4. Letter, Major General W.C. Wyman to Major General Lauris Norstad, 22 July 1947, quoted in Paddock, Colonel Alfred H., "Psychological and Unconventional Warfare, 1941-1952: Origins of a 'Special Warfare' Capability for the United States Army". Carlisle Barracks: U.S. Army War College, November 1979, page 77.

5. Belashchenko, T., "'Black Propaganda' from Fort Bragg" in Sovetskiy Voin. Moscow, June 1980, pages 46-47.

6. Paddock, op. cit., page 258.

7. Lasswell, Harold D. in Ellul, Jacques, Propaganda: The Formation of Men's Attitudes. New York: Random House, 1965, pages xi-xii.

8. Martin, L. John, "Effectiveness of International Propaganda" in Department of the Army Pamphlet 525-7-2 The Art and Science of Psychological Operations: Case Studies of Military Application, Volume Two. Washington, D.C.: American Institutes for Research, 1976, page 1020.

9. Ellul, Jacques, Propaganda: The Formation of Men's Attitudes. New York: Random House, 1965, pages 196-197.

10. Keller, Werner, The Etruscans. New York: Alfred A. Knopf, 1974, page 282.

11. See in particular Bowart, W.H., Operation Mind Control. New York: Dell Publishing Company, 1978.

12. Atmospheric electromagnetic (EM) activity: The human body communicates internally by EM and electrochemical impulses. The EM field displayed in Kirlian photographs, the effectiveness of acupuncture, and the body's physical responses to various types of EM radiation (X-rays, infrared radiation, visible light spectra, etc.) are all examples of human sensitivity to EM forces and fields. Atmospheric EM activity is regularly altered by such phenomena as sunspot eruptions and gravitational stresses which distort the Earth's magnetic field. Under varying external EM conditions, humans are more or less disposed to the consideration of new ideas. MindWar should be timed accordingly. Per Dr. L.J. Ravitz: "Electrodynamic field constructs add fuel to the assumption unifying living matter harmoniously with the operations of nature, postulating that each biologic thing is organized by a total dynamic pattern, the expression of an electromagnetic field no less than non-living systems; and that as points on spectrums, these two entities may at last take their positions in the organization of the universe in a way both explicable and rational ... A

tenable theory has been provided for emergence of the nervous system, developing not from functional demands, but instead deriving as a result of dynamic forces imposed on cell groups by the total field pattern. Living matter now has a definition of state based on relativity field physics, through which it has been possible to detect a measurable property of total state functions." (Ravitz, Leonard J., M.S., M.D., F.R.S.H., "Electro-magnetic Field Monitoring of Changing State-Function, Including Hypnotic States" in Journal of American Society of Psychosomatic Dentistry and Medicine, Vol. 17, No. 4, 1970.)

13. Ionization of the air: An abundance of negative condensation nuclei ("air ions") in ingested air enhances alertness and exhilaration, while an excess of positive ions enhances drowsiness and depression. Calculation of the ionic balance of a target audience's atmospheric environment will be correspondingly useful. Again this is a naturally-occurring condition - caused by such varying agents as solar ultraviolet light, lightning, and rapidly-moving water - rather than one which must be artificially created. [Detonation of nuclear weapons, however, will alter atmospheric ionization levels.] See for example Soyke, Fred and Edmonds, Alan, The Ion Effect. New York: E.P. Dutton, 1977.

14. Extremely Low Frequency (ELF) waves: ELF waves (up to 100 Hz) are once more naturally occurring, but they can also be produced artificially [such as for the Navy's Project Sanguine for submarine communication]. ELF-waves are not normally noticed by the unaided senses, yet their resonant effect upon the human body has been connected to both physiological disorders and emotional distortion. Infrasound vibration (up to 20 Hz) can subliminally influence brain activity to align itself to delta, theta, alpha, or beta wave patterns, inclining an audience toward everything from alertness to passivity. Infrasound could be used tactically, as ELF-waves endure for great distances; and it could be used in conjunction with media broadcasts as well. See Playfair, Guy L. and Hill, Scott, The Cycles of Heaven. New York: St. Martin's Press, 1978, pages 130-140.

PSYOPS
PSYWAR

COMMUNIST PSYCHOLOGICAL WARFARE
(BRAINWASHING)

CONSULTATION WITH
EDWARD HUNTER
AUTHOR AND FOREIGN CORRESPONDENT

COMMITTEE ON UN-AMERICAN ACTIVITIES
HOUSE OF REPRESENTATIVES
EIGHTY-FIFTH CONGRESS
SECOND SESSION

MARCH 13, 1958
(INCLUDING INDEX)

Printed for the use of the Committee on Un-American Activities

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UNITED STATES
GOVERNMENT PRINTING OFFICE
23794° WASHINGTON : 1958

RULES ADOPTED BY THE 85TH CONGRESS

House Resolution 5, January 3, 1957

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RULE X

STANDING COMMITTEES

1. There shall be elected by the House, at the commencement of each Congress,

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(q) Committee on Un-American Activities, to consist of nine Members.

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RULE XI

POWERS AND DUTIES OF COMMITTEES

* * * * * * *

17. Committee on Un-American Activities.

(a) Un-American activities.

(b) The Committee on Un-American Activities, as a whole or by subcommittee, is authorized to make from time to time investigations of (1) the extent, character, and objects of un-American propaganda activities in the United States, (2) the diffusion within the United States of subversive and un-American propaganda that is instigated from foreign countries or of a domestic origin and attacks the principle of the form of government as guaranteed by our Constitution, and (3) all other questions in relation thereto that would aid Congress in any necessary remedial legislation.

The Committee on Un-American Activities shall report to the House (or to the Clerk of the House if the House is not in session) the results of any such investigation, together with such recommendations as it deems advisable.

For the purpose of any such investigation, the Committee on Un-American Activities, or any subcommittee thereof, is authorized to sit and act at such times and places within the United States, whether or not the House is sitting, has recessed, or has adjourned, to hold such hearings, to require the attendance of such witnesses and the production of such books, papers, and documents, and to take such testimony, as it deems necessary. Subpenas may be issued under the signature of the chairman of the committee or any subcommittee, or by any member designated by any such chairman, and may be served by any person designated by any such chairman or member.

* * * * * * *

26. To assist the House in appraising the administration of the laws and in developing such amendments or related legislation as it may deem necessary, each standing committee of the House shall exercise continuous watchfulness of the execution by the administrative agencies concerned of any laws, the subject matter of which is within the jurisdiction of such committee; and, for that purpose, shall study all pertinent reports and data submitted to the House by the agencies in the executive branch of the Government.

SYNOPSIS

Communist psychological warfare is now winning such extensive victories in the United States that the Red bloc will not need to employ direct military force against us in order to win the total war which they are waging, with this country the principal target, Edward Hunter, American expert on Communist brainwashing, warned in a consultation with the staff of the Committee on Un-American Activities.

Mr. Hunter, whose career as a foreign correspondent, author, editor, world traveler, and specialist in propaganda warfare, qualifies him as an authority on Communist propaganda techniques, stated:

"I spent 30 years, a little bit more perhaps, in countries under various forms of Communist pressure and attack. What I am witnessing in America is no different from what I saw in those other countries. I am often referred to as someone who has made phenomenal predictions that proved correct on things to come. Actually, I have never made a prediction as such in my life. I have only predicted in the manner that one predicts the total of 4 after seeing the figures 2 plus 2.

"I have been watching developments under communism in other parts of the world, and now I see exactly the same developments here in America."

These developments, he continued, "include, first of all, the penetration of our leadership circles by a softening up and creating a defeatist state of mind. This includes penetration of our educational circles by a similar state of mind, in addition to one other thing—the long-range perspective of the professor who is above anything that is happening here and now, and considers himself as an objective spectator in a long, long vista of history.

"I see, primarily, as part of this softening up process in America, the liquidation of our attitudes on what we used to recognize as right and wrong, what we used to accept as absolute moral standards. We now confuse moral standards with the sophistication of dialectical materialism, with a Communist crackpot theology which teaches that everything changes, and that what is right or wrong, good or bad, changes as well. So nothing they say is really good or bad. There is no such thing as truth or a lie; and any belief we actually held was simply our being unsophisticated. They don't say this in so many words, except to those who are already indoctrinated in communism. What they do say to the rest of us is to be objective; and then they twist that word 'objective' into meaning what they mean by dialectical materialism."

"War has changed its form," Mr. Hunter declared. "The Communists have discovered that a man killed by a bullet is useless. He can dig no coal. They have discovered that a demolished city is useless. Its mills produce no cloth. The objective of Communist warfare is to capture intact the minds of the people and their posses-

sions, so they can be put to use. This is the modern conception of slavery, that puts all others in the kindergarten age.

"The United States is the main battlefield in this Red war. I mean specifically the people and the soil and the resources of the United States.

"It should be obvious to anyone who has observed the so-called cold war that the United States is its principal target. We need only read what the Communists themselves say, but we refuse to do so, exactly as we could not believe that Hitler meant what he said in Mein Kampf."

"The first battles in this total war have already been won by the forces of international communism in the United States. These victories are identical to those they have won in every country which they have ultimately taken over. They have succeeded in softening up a large element of the American population, particularly among those to whom we look for guidance, our so-called intellectuals and our so-called liberal circles. They have succeeded in making the United States think and talk of a coexistence period as if that were an end in itself; while in other parts of the world, as in India, the Reds frankly explain that this coexistence is merely intended to give the Americans an easy way to choose their road toward communism.

"This is strategy. The Kremlin is merely giving the United States a choice of surrendering by voluntary change of attitude, to avoid more destructive ways of surrender. Unfortunately, in the United States, large elements, mainly among our non-Communist population, have been softened up into believing that if we can just stall on this situation, it will take care of itself. The Reds have succeeded in inducing business communities to look to Soviet trade as a means of restoring prosperity. Large business elements, with all their financial and other resources, are now being used to help the Communist objective of softening up America for recognition and acceptance of Red China, for instance."

The Communists are being abetted in their brainwashing program in the United States, Mr. Hunter declared, by the collapse of traditional American ideals of self-reliance and individual integrity.

"The Communists have been operating for a full generation, taking strategic advantage of the American principles, exploiting the best sides in our characters as vulnerabilities, and succeeding for a generation in changing the characteristics of Americans. I remember when I was a young man, every personnel department was looking for leadership qualities. What was sought was a man's capacity as an individual to achieve new things. Today that is not even considered by personnel departments in their employment policies. They ask, instead, if the man 'gets along' with everybody. They do not ask what is his individuality; they ask how he conforms. When we raise a young man to believe that at all costs he must get on with everyone, we have put him into a state of mind that almost guarantees, if he falls into the hands of an enemy such as the Communists, that he will react as he had been raised, to try 'to get on,' because he must not be 'antisocial.' Being 'antisocial' has become the cardinal sin in our society. We have to again go back to characteristics of ours which made us, as individuals, say that what is right is right, and whether or not it is antisocial, makes no difference. The young man who broadcast for the Red Chinese was simply 'getting along' as he had been taught to do by our educators."

As an example of the success the Communists are achieving, Mr. Hunter cited statistics on American prisoners of war in Korea.

"Never before in history had so many captured Americans gone to the aid of the enemy.

"For 2 years the services studied the records of the prisoners. What they found was not pretty.

"A total of 7,190 Americans were captured. Of these, 6,656 were Army troops, 263 were airmen, 231 Marines, 40 Navy men.

"In every war in American history some men have managed to escape. Korea was the exception.

"Roughly 1 of every 3 American prisoners collaborated with the Communists in some way, either as informers or as propagandists.

"In the 20 prison camps, 2,730 of the 7,190 Americans died, the highest mortality rate among prisoners in United States history. Many of them died unnecessarily. They either did not know how to take care of themselves or they just lay down and quit. Some sick or wounded died of malnutrition abandoned by their comrades.

"Discipline among Americans was almost nonexistent. It was a case of dog eat dog for food, cigarettes, blankets, clothes.

"For the first time in history Americans—21 of them—swallowed the enemy's propaganda line and declined to return to their own people."

Mr. Hunter declared that in the struggle with the Soviet Union, "we are losing so fast that unless we put a very drastic end to it, the question of who is winning will be academic in a decade."

"People at lectures and elsewhere," he declared, "frequently ask that of me, as if begging me to say that we are winning. I wish I could, but one only has to think of the position of the United States at the end of the war and compare it to now. We only have to look at the map of the world as it was when we signed the peace on the battleship *Missouri* and compare it to the map now. Great areas with enormous populations have fallen into the hands of the Reds, not through any approximation to the democratic process, but through sheer power pressures, by psychological warfare."

Even an ultimate superiority in military weapons may not be sufficient to guarantee the survival of the United States, Mr. Hunter cautioned.

"In Korea, we had atomic weapons, but lost the war and were unable to use those weapons because of a political and psychological climate created by the Communists. The Kremlin today is fighting total war, and this means total, not with weapons of physical destruction alone, but mental destruction, too. The new weapons are for conquest intact, of peoples and cities. The future Pearl Harbor sputnik will be used if the situation demands it. But not unless the Kremlin has first succeeded in conquering the character and minds of a large enough element of the American people so that it will be fitting itself into the desires and needs of the Communist apparatus, no matter whether they think of themselves as Red or anti-Communist."

Mr. Hunter continued: "The most deadly misconception of all, that requires a softening up in our thinking before we can make it, is the idea that there are different kinds of communism, and that besides international communism there is something called national communism, which fundamentally differs. There is nothing of the sort. We are again interpreting, on the basis of wishful thinking,

what the Communists themselves are plainly saying. We base this national communism conception on Titoism. Tito at no time disowned or expressed doubt in any of the fundamental tenets of communism, and he is today expending all the time he can in trying to tell the world that he believes in communism, intends Communist objectives to win out in the long run all over the world. Communism in this, too, has been able, as always, to get the help it needs from the non-Communist and principally the anti-Communist world.

"Each time there has been a crisis in Soviet Russia, it could depend on the outside world for help. Today, under the theory that there are different forms of communism, and some Communist forms are not really Communist, or are less Communist than others, we are giving through aid programs and such propaganda assists as so-called exchange scholarships, the help and sustenance that these Communist countries require to survive. I have heard that under certain technical requirements of the law, completely fantastic statements have come from the White House and the State Department that communism in Yugoslavia really isn't communism any more, and that communism in Poland is not real communism. I thought we had learned our lesson in China. We said that the communism of China, the communism of Mao Tse-tung was not really communism. We said it was not the communism of Moscow. Mao Tse-tung was saying it was the same communism, exactly as Tito says that the Communist ideology is basically the same everywhere, and that the objective for a Communist world is identical."

COMMUNIST PSYCHOLOGICAL WARFARE (BRAINWASHING)

THURSDAY, MARCH 13, 1958

UNITED STATES HOUSE OF REPRESENTATIVES,
COMMITTEE ON UN-AMERICAN ACTIVITIES,
Washington, D. C.

CONSULTATION

The following consultation with Edward Hunter, author and foreign correspondent, was held at 10 a. m., March 13, 1958, in room 226, Old House Office Building, Washington, D. C., pursuant to the authorization of the Committee on Un-American Activities composed of:

FRANCIS E. WALTER, Pennsylvania, *Chairman*

MORGAN M. MOULDER, Missouri	BERNARD W. KEARNEY, New York
CLYDE DOYLE, California	DONALD L. JACKSON, California
EDWIN E. WILLIS, Louisiana	GORDON H. SCHERER, Ohio
WILLIAM M. TUCK, Virginia	ROBERT J. McINTOSH, Michigan

Staff members present: Richard Arens, staff director, and William F. Heimlich, consultant.

Mr. ARENS. The session today is the first in a series of consultations on the subject of the Communist psychological warfare which the Committee on Un-American Activities has inaugurated.

We are pleased to welcome to the consultation today Mr. Edward Hunter, whose distinguished career as foreign correspondent, author, editor, world traveler, and specialist in psychological warfare eminently qualifies him to speak authoritatively on the subject at hand.

STATEMENT OF EDWARD HUNTER

Mr. ARENS. Mr. Hunter, may I ask you if you would kindly give us for the purpose of this record a thumbnail sketch of your own personal history?

Mr. HUNTER. I am a journalist whose career began on a newspaper in New Jersey, the Newark Ledger, where I became news editor, then went to Europe and joined the Chicago Tribune in Paris. After an interlude on newspapers in America, I went to Japan to join the Japan Advertiser, becoming its news editor.

A year later, I went to China and took over the Hankow Herald from the Communists. The Reds had just left, and shopkeepers still were talking of boxes of American dollars brought in by Moscow.

Colonel HEIMLICH. What year was that, Mr. Hunter?

Mr. HUNTER. Between 1926 and 1928. I remember events well, but not their years.

Next I went to Peking to become managing editor of the Peking Leader. I joined the Hearst newspaper syndicates in 1931, when the "Manchuria Incident" began. I witnessed the creation of the puppet state of Manchukuo. I accompanied the League of Nations mission of inquiry in Manchuria and saw the coronation of Emperor Pu-yi, now a prisoner of the Reds.

Psychological weapons turn a page in history

"There is a growing realization by commanders . . . of how effective psy-ops can be."

Washington, DC, Times
p.A 1, 29 January 1995

■ Bombs and missiles help, but a war of words can be a winner. . .

By Michael Hedges
THE WASHINGTON TIMES

In the tense days before and after the return of President Jean-Bertrand Aristide to Haiti in October, Haitians found nearly inescapable a simple, reassuring song on their radios urging them to back the president and support democracy.

Three and a half years earlier on the cold, rainy dawns in northern Saudi Arabia, Iraqi soldiers regularly approached front-line American troops carrying small rectangular pieces of paper explaining how to surrender safely.

Both were signs that a little-understood arm of U.S. combat power had been at work — the special forces' Psychological Operations Command.

Now, with the coming hand-off of the U.S. Army's Haiti mission to U.N. forces, psychological operations troops are trying to assure a clean transition and prevent another Somalia, where the pullout of U.S. Marines presaged a return to chaos.

"There is total trust in U.S. forces at this stage of the game, and they [the Haitian people] are uncomfortable with the departure by American forces," said Col. Jeffrey B. Jones, commander of the 4th Psychological Operations Group out of Fort Bragg, N.C.

"Certainly one of our missions is to help in that transition from a U.S.-led to a predominantly non-U.S.-led U.N. mission to allay the concern of the Haitian people about the departure," he said.

Unlike in Somalia, Col. Jones said, the United Nations has requested the help of the American military in this transition. "We are trying to encourage those contingents [of U.N. troops] to build their own credibility with the Haitian people," he said.

Whatever occurs during the transition, the Army considers the use of psychological operations in Haiti a major success, Defense Secretary William Perry recently told reporters.

Psy-ops commands use a broad range of methods to get America's message across to its enemies and others, including the civilian populations of nations where U.S. troops are committed.

They rain millions of leaflets from aircraft, broadcast on television and radio, write speeches for military commanders, even print bumper stickers and handbills. In Haiti, they financed outdoor music rallies and commissioned a song urging peace and support for democracy.

"It was used a little bit in Grenada, but almost as an afterthought," said Col. Jones. "[Operation] Just Cause in Panama [in 1989] really showed the influence and effect of psy-ops. . . . We built on what had been neglected going back really to Vietnam."

The Gulf conflict that began with the Iraqi invasion of Kuwait in August 1990 and ended with the U.S.-led rout of the Iraqis in February 1991 put the program on the map.

"We were able to persuade 44 percent of the Iraqi troops in the Kuwait theater of operations to desert, over 17,000 to defect," Col. Jones said. "We psychologically prepared the ground so that the immediate result [of American and allied ground attacks] was surrender, and over 87,000 surrendered."

He said the Gulf was the perfect theater for the psy-ops message. "There was a void there in the Iraqi people, and particularly in the Iraqi soldiers. They had repeatedly been lied to, to the point of telling them where they were. Half of them thought they were in Israel.

"We ran a radio station for 40 days, 18 hours a day on six channels, in addition to printing and delivering 29 leaflets. . . . Those things conveyed that the world was against Saddam."

Psy-ops units are divided into battalions responsible for regions of the world. They consider ongoing peacetime missions, from Latin America to Africa, as important as their wartime operations.

"We do everything from teaching how not to get AIDS in Africa to working with the Drug Enforcement Administration as to how to teach 'Just say no' to people in Central and South America," said Col. Jones.

Psy-ops has a program in every school in Cambodia teaching children how to avoid the hundreds of thousands of land mines sown there — lessons ranging from how to get out of a mine field if you wander into one to how to apply a tourniquet if a companion has a leg blown off.

"We are in Mozambique, Ethiopia, Eritrea, Namibia. We may go back to Rwanda," said Col. Jones. "The results of our efforts are literally being felt around the world."

The Haiti operation, close at hand and long in the planning, offered a perfect arena for the display of psy-op capabilities.

"There was preparation, literally over months," said Col. Jones. "We had a lot of detailed research and analysis, and our own experiences in operations other than war because that is what this ended up being. . . .

"We prepared for a combat operation, but our experience also gave us the intellectual flexibility to change at H minus 3½ hours."

The modern psy-ops arm of the U.S. military has been engaged in every major military operation since Grenada, in October 1983.

Proponents say psy-ops has evolved over that time into a highly effective "combat multiplier," giving the military the ability to conduct complex campaigns in foreign cultures without overwhelming numbers.

"There is a growing realization by commanders of combat forces of how effective psy-ops can be," said Brig. Gen. Richard W. Potter, who commanded the U.S. Special Forces in Haiti before retiring in October. "There is a real refinement in tactical and operations officers knowing what psy-ops is and how to use it effectively."

What psy-ops is varies from mission to mission, but it is never the nefarious cloak-and-dagger or propaganda machine that aficionados of techno-thrillers might imagine, said Col. Jones.

"It has a lot of historical baggage from the German use of brainwashing, those types of things in World War II," Col. Jones said in a recent Pentagon interview. "That is not what we do."

He said, "Predominately what we did in the Gulf is nothing other than communicating the truth. Our legitimacy and our credibility becomes undermined if we don't tell the truth, and that is the most powerful tool that we have."

For the U.S. Army, there were efforts at what is now called psychological operations in World War II and Vietnam. But the contemporary practitioners say they had to rebuild their skills beginning with the renaissance of the military in the 1980s.

Psy-ops soldiers and civilians are required to speak at least one foreign language and, together psy-ops personnel can speak at least 30 languages. Half of the civilian workers have doctorates in areas related to foreign affairs. Many of them have lived overseas.

Despite that, it is impossible not to make an occasional mistake when dealing with alien cultures.

A classic snafu occurred in Somalia when a leaflet hurriedly composed for dropping on Mogadishu got a critical word wrong.

"The translation for some was 'slave nation' rather than 'united nation,'" said Col. Jones. Translated literally, the leaflet seemed to tell Somalis the armed forces of the U.S.-led coalition were coming to enslave them.

"Somali is a written language that has only been around for 20 years," he said. Only one person in the entire U.S. military could be found to help translate the message to be printed on leaflets, a sailor who had been away for many years.

"We had debates every day, we hired Somalis to help us with translation, and they had arguments every day about the words and the terms," he said.

"Somalia was difficult because of the language, because we generally don't go into places that are ungovernable and without structure," he added.

"I think that is a lesson the U.N is learning with great difficulty. The expectations of the people are very high when the U.S. becomes involved. We have to go in with clearly defined objectives and our ends have to be achievable," Col. Jones said.

There is usually not a long lead time for preparation, whether the target market for psy-ops is in the Horn of Africa or the Caribbean.

"I think it's safe to say we have a 100 percent proven inability to predict, to forecast where we are going to go," Col. Jones said.

"I mean if you look at Somalia no one could have predicted that. Rwanda, forget it," he said. "The Gulf — quite frankly we had prepared to fight the Russians in Iran, not the Iraqis.

"If you look at Bosnia, no one could have predicted that because there was Yugoslavia and, despite the totalitarian regime there, there was not chaos. If you look at Haiti, who would have predicted that?"

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U.S. Army
Special Operations Command

Civil Affairs and Psychological Operations Command

Psychological Operations (PSYOPs)

Psychological Operations are a vital part of the broad range of U.S. political, military, economic and ideological activities used by the U.S. government to secure national objectives. PSYOP is the dissemination of truthful information to foreign audiences in support of U.S. policy and national objectives.

Used during peacetime, contingencies and declared war, these activities are not a form of force, but are force multipliers that use nonviolent means in often violent environments. Persuading rather than compelling physically, they rely on logic, fear, desire or other mental factors to promote specific emotions, attitudes or behaviors. The ultimate objective of U.S. military psychological operations is to convince enemy, neutral, and friendly nations and forces to take action favorable to the United States and its allies.

Psychological operations support national security objectives during peacetime, contingencies and war. They provide commanders a critical, force-multiplying capability that can be used at tactical, operational and strategic levels of operations.

Strategic psychological operations advance broad or long-term objectives. Global in nature, they may be directed toward large audiences or at key communicators. Operational psychological operations are conducted on a smaller scale. They are employed by theater commanders to target groups within the theater of operations. Their purpose can range from gaining support for U.S. operations to preparing the battlefield for combat.

Tactical psychological operations are more limited, used by commanders to secure immediate and near-term goals. In this environment, these force-enhancing activities serve as a means to lower the morale and efficiency or enemy forces. Both tactical and theater-level psychological operations may be used to enhance peacetime military activities of conventional and special operations forces operating in foreign countries. Cultural awareness packages attune U.S. forces before departing overseas', in theater, media

HISTORY

The Green Beret
Quick History
Detailed History
Insignia
Beret Flashes
Unit Patches

SPECIAL OPS

SF Missions
About Special Ops Forces
Special Ops Primer
Special Ops Imperatives

THE MEN

The Soldiers
The Team Leader
The Team Sergeant
The Team Tech
SF Heroes
Medal of Honor - Vietnam

ORGANIZATION

The "A" Team
Support Elements
Aviation
Special Warfare Center
Special Forces Cmd
Army Special Ops Cmd
U.S. Special Ops Cmd
Research & Development

TRAINING

Assessment (SFAS)
Qualification (SFQC)
Specialty Training

Schools

TECHNOLOGY

New Technologies
Special Ops Aircraft
Weapons and Demolitions
Communications
Miscellaneous

SF MYTHOLOGY

Concerning "Hooah!"
About Rambo
About John Wayne
SF Memorial Fund
The "Coin Check"
The SF Creed
The SF Prayer
Ballad of the Green Beret
Murphy's Laws of Combat
Rogers' Standing Orders
The Ranger Creed
The Creation (Airborne)
The Commando's Prayer

RECRUITING

Thinking About Joining?
Special Ops Recruiting
US Army Recruiting Site
The Army Tour
Information Request Form
Find an Army Recruiter

LOCATOR

Active Duty
Former Service Members

REFERENCE

Reading Room
Official Links
Unofficial Links

INQUIRIES

Communications Center

EXIT

These pages look best using Netscape Communicator 4.0 or Internet Explorer 4.0.
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programs publicize the positive aspects of combined military exercises and deployments.

In addition to supporting commanders, psychological operations provide interagency support to other U.S. government agencies. In operations ranging from humanitarian assistance to drug interdiction, psychological operations enhance the impact of actions taken by those agencies. Their activities can be used to spread information about ongoing programs and to gain support from the local populace.

Psychological operations units of the U.S. Army are language and culturally oriented. The 4th Psychological Operations Group (Airborne) at Fort Bragg, N.C., the only active Army psychological operations unit, constitutes 26 percent of all U.S. Army psychological operations units. The remaining 74 percent are in the Reserve component.

Back to CAPOC page.

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Last Update: August 10, 1998

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http://users.aol.com/armysof1/PSYOPS.html

PEACE IN MIND will the UN give psyops a chance?

Psychological operations are an integral part of modern warfare. Can United Nations military missions afford to ignore such a useful tool?

By Brian Cloughley*

US Marines distribute newspapers to Somalis in Mogadishu during Operation Restore Hope in December 1992. Despite "hearts and minds" efforts, the populace came to view UN and US actions as hostile. (Terry Mitchell, Combat Camera)

The use of psychology in war is as old as war itself. It can be as basic as propaganda, or as sophisticated as the increasingly refined employment of psychological operations (psyops) in the Second World War, the Cold War, Korea, Malaya, Vietnam, and Haiti. Psyops has been a tool that, when skilfully employed, assisted in overcoming hostile forces. There is a nexus among psyops, national strategic imperatives, censorship, outright propaganda, deception, "black" propaganda, employment of intelligence, conventional military operations, and the truth. The last is the most important for successful psyops.

With the introduction of non-lethal weaponry, and an increased reluctance on the part of national governments to place their armed forces in harm's way (especially when involved in United Nations operations), psyops has an even more important role to play. This is true in conflict and in the period before conflict begins. The use of psyops in UN peacekeeping as an instrument of UN policy (rather than that of participating countries alone), is overdue. However, the employment of psyops must be more skilful and more subtle than in the past. The UN should use psyops as it does diplomacy: as an interlocking tool

that, along with other means at its disposal - including force - can be used to limit casualties and assist in achieving aims set by the UN Security Council.

The UN is not impervious to new ideas; rather it is slow to recognize and implement them. This is because the bureaucracy is cumbersome and dependent on consultation involving a multitude of interests, not the least of which are national. If the UN should consider developing a psyops capability, then the road will be long and hard.

One stumbling block will be the misperception of the relation between pysops and intelligence. Although the areas are linked, there is no direct connection.

It is essential that psyops be co-ordinated with other efforts to be effective. However, a single error in presentation can destroy the entire credibility of a psyops program and even result in an enemy's increased determination to fight. Psyops can be both strategic and tactical, but its purpose remains essentially the same. It can include political, military and economic measures to achieve its objectives, which are to:

· bolster civilian morale in the country or countries whose troops are to conduct, or are conducting, military operations;

· assist in the maintenance of morale of national and allied armed forces;

· obtain the support of civilian elements in the country against which military operations are being carried out, or against whom it is intended pressure should be brought to bear (the "target country");

· persuade civilian and military personnel of the target country that their government's cause is flawed or futile;

· cause disaffection amongst the enemy's combat troops; and

· encourage governments and populations of neutral or potentially supportive countries to support action against the target country;

Whether strategic or tactical, a national (or UN) program to influence target countries requires direction and co-ordination at the highest level. There is no point in a government agency adopting a line of propaganda at variance with other departments or ministries.

PSYOPS IN ACTION

In Vietnam, the enormous American psyops effort failed at the strategic level, but had some success tactically. The North Vietnamese government knew exactly what United States Secretary of State Henry Kissinger was attempting to do in his negotiations and passed this information to field commanders. The Central Office for South Vietnam (COSVN) told of Kissinger's manoeuvres which, he thought, would be kept on a basis of government-to-government confidentiality. Kissinger did not inform his own side of much of what he was doing, even at the highest levels in the US State and Defense departments. (1) However, the enemy knew - and capitalized on - his approaches. This served to weaken strategic psyops against Vietnam, and even worked against success of low-level tactical psyops in the field.

During the "Emergency" in Malaya (1948-1960) when British and other Commonwealth forces fought Communist guerrillas in the jungles, there

emerged a Chinese master of psychological warfare, C.C. Too. His tenets included the advice that a psyops campaign should be based on: "Don't preach. Don't theorize. Never say `I told you so.' No propaganda based on hatred." One of his maxims was: "You are a human being and we all make mistakes." (2)

Robert Thompson, a British authority on counterinsurgency, went further. As a comparatively junior officer serving in Malaya, he developed the basics of modern tactical psyops in counter-revolutionary warfare which are as applicable today to UN operations as they were 40 years ago in the Malay jungles:

· encourage the surrender of insurgents;

· sow dissension between insurgent rank-and-file and their leaders; and

· create an image of government, both to the insurgents and to the population, that is both firm and efficient, and at the same time just and generous. (3)

In hindsight it is easy to see why Thompson's doctrine failed in Vietnam, with its corrupt government officials, bellicose American warriors (commanding an increasingly disaffected and ill-disciplined conscript military), and a US government that did not know what was going on in the country it was trying to "save".

The US learned many lessons from Vietnam, not least in the psyops field. In 1994-1995, the US campaign against followers of the discredited regime in Haiti proved successful. The 4th Psychological Operations Group of the US Army targeted groups and individuals within Haiti and used new technologies, including electronic mail and the Internet. However, psyops relies to some extent on the perception of those targeted that there might be a better alternative to a corrupt or brutal regime. In Somalia and Bosnia the alternatives were, and are, difficult to identify, given ethnic and clan allegiances which are almost impossible to break down. No Bosnian Muslim could ever be convinced, at such a late stage in the conflict, that government by Serbs would be in the Muslims' interests. It is too late, in Bosnia, to convince any group that rule by another would be acceptable. However, it is ironic that the unofficial propaganda produced by television coverage contributed to convincing the UN that indecision and inaction had continued too long.

With the exception of one area, Britain has neglected psyops in recent years. In spite of the observation of British Major General Frank Kitson, over 20 years ago, that "Undoubtedly the British are `bringing up the rear' in this important aspect of contemporary war," (4) the United Kingdom's efforts have not increased in quantity, although techniques and application are sophisticated. A request by a Commonwealth country to the UK Ministry of Defence in 1995 for a briefing on British psyops policy and doctrine was deflected.

NEED FOR SECRECY

It is reasonable to conclude that Britain has concentrated so much on Northern Ireland and the IRA (Irish Republican Army) that psyops techniques are almost entirely country-specific and sensitive, and therefore cannot be disclosed even to friendly countries. Britain's psyops campaign against the IRA appears to have been conducted at a tactical level, and was aimed at recruiting informants and conveying disinformation. Even conveying the "truth" has been of little advantage to the British, as the targets (the IRA, republicans and most Catholics) believe their cause is just.

If the UN is to take psyops seriously it will have to rely on the technical

knowledge, personnel and equipment of those countries that have expertise in the subject. Many armed forces possess a psyops capability. The US possesses one of the largest capabilities, discounting the Russians and Chinese whose use of propaganda cannot be described as benevolent. It would be reasonable to expect the US to place some of its assets at the disposal of the UN for specific operations. There would be, however, a requirement for a permanent psyops planning cell at UN Headquarters (UNHQ), and tacit agreement by the US that non-combat troops could be placed under the control of a UN field commander.

UNHQ in New York took many years to agree to constitute a military operations cell at even modest staffing levels. It exists as part of the office of the Military Adviser to the Secretary General (MILAD). Although the present organization is not wholly satisfactory (mainly because staff levels are inadequate and incorrectly structured), there have been steps in the right direction. UNHQ resistance to inclusion of military representatives at appropriate levels stems from the days of the Cold War, and there remains a reluctance to become involved in the intelligence process. UN information-gathering and processing has been described as "a neglected area of UN activity" and improvement has been limited by "the financial crisis of the organization, combined with a traditional scepticism about `intelligence' activities." (5)

Psyops depends on timely intelligence. Although psychological operations must not be (or perceived to be) integral to the intelligence system, liaison between the two staffs is essential. Even then, there can be problems. In Vietnam, an operation directed against a Viet Cong guerrilla leader failed because a leaflet, directed personally to him, contained incorrect information. It stated that he was suffering from tuberculosis, and should surrender for medical treatment that was not available in the jungle. However, he had a stomach ulcer. Information from a Viet Cong prisoner showed that credibility was lost and the Viet Cong had resolved to ignore further messages. There is a close link between intelligence and psyops, but the intelligence must be reliable.

Despite UN inertia, and continuing distrust among some countries involved in peacekeeping planning, participation and direction, an intelligence database is essential for the success of operations. This will be difficult to implement fully given wariness of some countries concerning possible compromise of methods. However, basic intelligence about an area in which UN peacekeepers are to be committed can be obtained from open sources. Later, more tactical intelligence can be gathered on the ground by well-known (and commercially available) systems and techniques. Even though communications intercept is a sensitive matter (and of considerable importance in psyops), there is no requirement for a contributing country to divulge technical details. For example, during the Second World War, information disseminated by the Ultra system to even the highest commanders did not involve them having to know how the process worked. Even today, details of organizations such as the UK Government Communications Headquarters and the US National Security Agency are confined to a few. The product, sanitized as necessary, can be distributed without recipients knowing its origins. National intelligence systems and sources need not be compromised.

LOW-KEY OPERATIONS

Mounting a peacekeeping operation at short notice (which, almost by definition, will be the norm), is a complex undertaking. Employment of strategic psyops in a concerted campaign would not be practicable and its usefulness is questionable given the conflicting messages which emanate from those countries supporting UN resolutions. The UN should confine itself to low-key tactical psyops once an operation is under way. This would require:

· establishment of a permanent psyops planning cell within UNHQ;

· access to intelligence before and during operations;

· commitment by a major country to provide a tactical psyops unit on request;

· guarantee of delivery means (aircraft for leaflets, a radio station and aural dissemination);

· precise command-and-control arrangements between the tasked unit, the force commander, the UN Secretary General's Special Representative (if appointed) and UNHQ.

The psyops planning cell in New York should be an element of Department of Peacekeeping Operations (DPKO) and an integral part of the Planning and Co-ordination Cell which is to be headed by a one-star military officer. It should consist of a staff of three: a staff officer (plans) of lieutenant-colonel rank; an assistant; and a civilian psyops adviser. They would have access to the Joint Deployable Intelligence Support System (6) and be augmented during operations by further staff, selected for their knowledge of the region involved.

A tactical psyops unit of about 30 staff of all ranks would be based within the HQ of the force commander. It would be under his operational control, having contact with the providing country only on such matters as might conflict with national policy. (There would be no question of covert psyops operations such as the Phoenix Program (7) in Vietnam).

The planning cell, in association with Field Operations Division in New York, would determine allocation and types of equipment. This would, preferably, also be provided by the country contributing the unit. Command and control, as far as UNHQ is concerned, should be through the force commander to MILAD, thence to the secretary-general, as with other elements of the peacekeeping force. Operationally, the unit would be tasked to:

· convey the aims of the Security Council resolution(s) to the populace and fighting forces of the country concerned;

· advise the force commander on civil aid projects that would assist the welfare of the population and contribute to their acceptance of the UN force; and

· conduct psyops intended to diminish the influence of disruptive individuals and groups.

Establishment of a UN psyops capability is practicable and necessary. Civic action programs in operational areas have been fragmented in the past, and there has been little co-ordination in efforts to convince dissident elements and civilian populations of the benefits of UN presence. Inclusion of a planning cell in UNHQ and a guarantee that a tactical unit would be made available are modest goals, but their achievement would be of considerable benefit to future peacekeeping operations.

Photograph: US Marines, using a Humvee equipped with a public-address system, make a sweep of Bakara Market, Mogadishu, in 1993. Could an effective psyops campaign have salvaged this UN mission? (Terry Mitchell, Combat Camera)

Drawings: The US psyops campaign against Iraq during the 1990-1991 Gulf War was effective in convincing Iraqi soldiers to surrender. One Iraqi divisional commander later said that psyops leaflets were a great threat to Iraqi morale, second only to bombing. The Arabic script above reads "Too late!", while that below reads "This location is subject to bombardment. Escape now and save yourselves." (US Army)

Notes:

1. Seymour M. Hersh, Kissinger, the Price of Power. Faber & Faber 1983.
2. Noel Barber, The War of the Running Dogs. Collins, 1971.
3. Op cit.
4. Frank Kitson, Low Intensity Operations. Faber 1975.
5. Mats R. Berdal, Whither UN Peacekeeping? International Institute for Strategic Studies Adelphi Paper 281, 1993.
6. Op cit. "The US-donated intelligence processing system in the Department of Peacekeeping Operations... was installed to aid UNISOM II operations and is also viewed as a `first initial step' in enabling the Secretariat to receive, process and disseminate information provided by member states to the Secretariat."
7. The Phoenix Program was designed to identify and "neutralize" members of the Viet Cong infrastructure in South Vietnam. It went out of control and involved assassinations in later stages of the war. See Seymour M. Hersh, Cover-Up. Random House 1972.

** The author writes on political and military affairs. He commanded the Australian Psychological Operations Unit in Vietnam.*

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Thursday, Nov. 26, 1998

Psychological operations unit now a regiment

The soldiers who use mass communications to fight the nations battles get recognition.

By Henry Cuningham
Military editor

The Army last week activated a Psychological Operations Regiment, giving todays soldiers a link with their historic roots.

"This has been over five years in the making, and it has finally happened, due to the efforts of a lot of folks, Maj. Gen. Kenneth R. Bowra said at the ceremony.

Retired Col. Alfred Paddock Jr., left, and retired Sgt. Maj. Rudy Whittaker uncase the unit colors as Maj. Gen. Kenneth Bowra, with his back to the camera, looks on.
Staff photo by Cindy Burnham

"This marks a significant milestone, not only for the special operations community, but also for the U.S. Army, Bowra said. "It is also long overdue.

Bowra is commander of the John F. Kennedy Special Warfare Center and School, which gives soldiers their initial training in psychological operations, civil affairs and Special Forces. Fort Bragg is home to the 4th Psychological Operations Group, the Armys only active-duty psy ops unit.

Psychological operations soldiers are the Armys experts at mass communications. They can communicate by print and broadcast to encourage soldiers and civilians to support U.S. military objectives on the battlefield, after a conflict or in peacetime.

Psy ops soldiers in Vietnam used radios, loudspeakers and leaflets to announce American might, denounce Chinese and Soviet imperialism, promote the good life of a prisoner of war and encourage defection. During the 1989 Panama invasion, psy ops troops worked to help calm the civilian population. In the Gulf War, they conducted leaflet campaigns to encourage surrender.

"The regimental motto, 'Persuade, Change and Influence, that you see on those colors is an absolutely fitting one, Bowra said.

The regimental shield is silver gray, white and black representing the three types of psychological operations. White represents overt action. Black is for operations attributed to others. Gray is for activities that are conducted anonymously.

In the center of the shield is adapted from the psychological operations collar insignia. The Trojan Horse represents the ability to act in an unexpected manner and influence all types of warfare. The lightning bolt and sword denote speed and the ability to strike anywhere.

There will be a "greater importance of psychological operations in the Information Age of today and tomorrow, Bowra said.

Active and reserve soldiers will wear the same regimental insignia, he said.

"That insignia should serve as a reminder of the unique affiliation, sense of loyalty, commitment and history that they share, Bowra said. "Activation of the regiment will also reflect our Total Army, the integration of the active and Reserve components.

Retired Col. Alfred H. Paddock Jr. of Alexandria, Va., became the first honorary colonel of the regiment. He served three combat tours in Vietnam with Special Forces units and is former commander of the 6th Psychological Operations Battalion and 4th Psy Ops Group at Fort Bragg. Paddock was director of psychological operations in the Office of the Secretary of Defense.

Retired Sgt. Maj. Rudy Whittaker of Stockton, Calif., became the regimental sergeant major. He is a veteran of psy ops and military intelligence units.

Psychological warfare almost disappeared after World War II and then was revived.

The Psychological Warfare Center came to Fort Bragg in 1952. The center was the forerunner of the JFK Center and School.

Civilian employees make a big contribution as intelligence analysts and computer specialists, Paddock said.

"We could not do our job without these folks, he said. "So although they are not formally a part of the regiment, I say as the first honorary colonel of the regiment that we should include them in spirit.

"It is a special day, said Chad Spawr, of Rochester Hills, Mich., president of the Psychological Operations Veterans Association. "Its special for all of you in the psy op community today, but its special for those in the psy op veteran community as well. This day is special because it confers something that weve always known, but youve known as well: That psy op makes a difference.

Spawr helped established a psy ops center between U.S. and Vietnamese forces.

Twelve men died in Vietnam performing psy op missions and more than 100 psy ops soldiers were wounded in action, he said.

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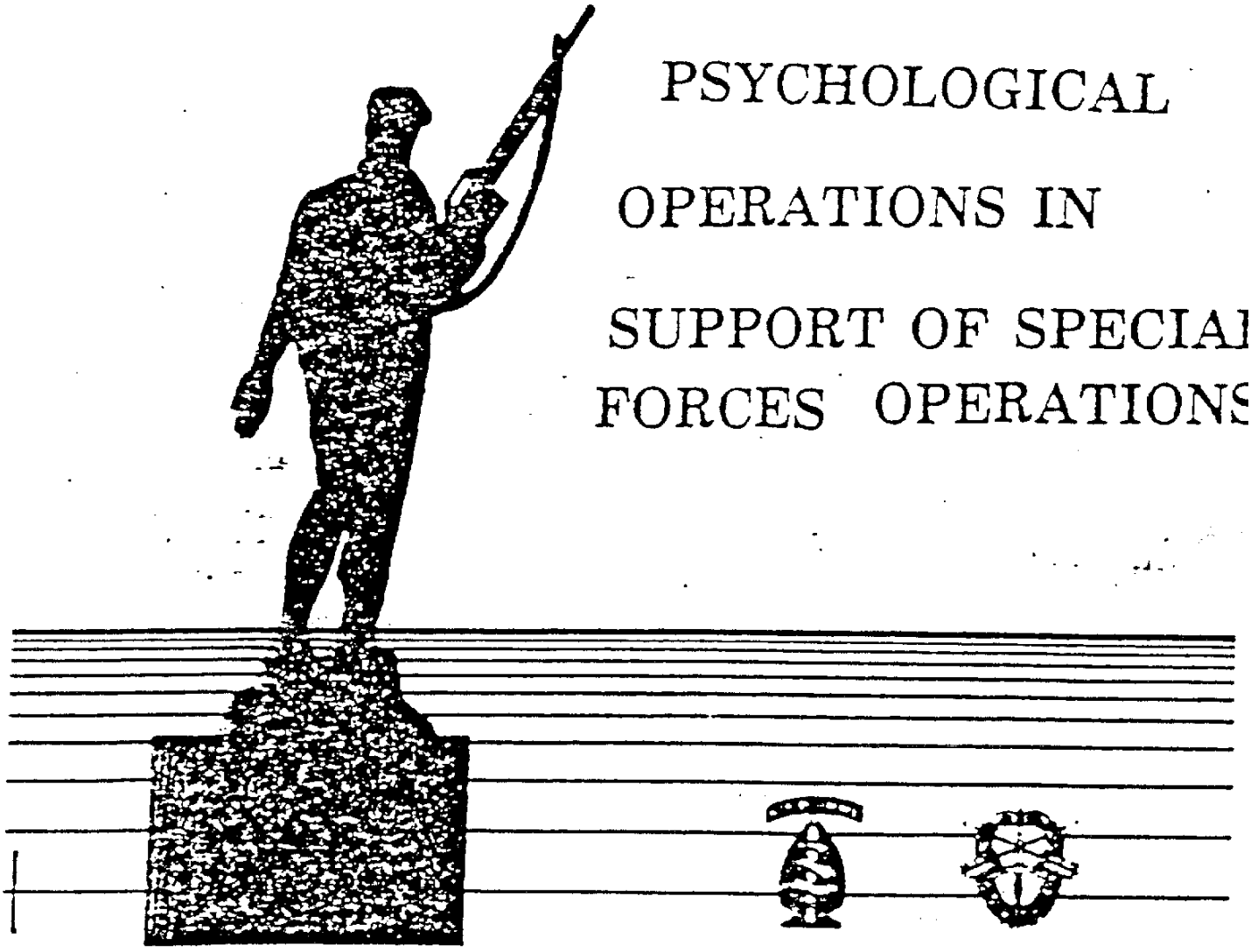
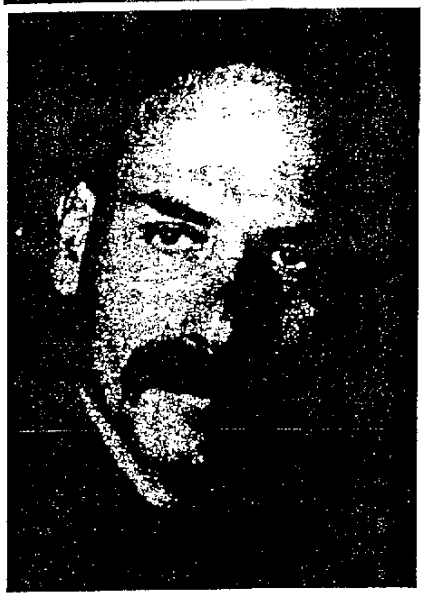


PSYCHOLOGICAL OPERATIONS IN SUPPORT OF SPECIAL FORCES OPERATIONS

United States Army John F. Kennedy Special Warfare Center · Fort Bragg, North Carolina 28307-5000

by Steven Jacobson



MEDIA MIND CONTROL

In the book "1984," George Orwell warned that people were in danger of losing their freedom of mind without being aware of it while it was happening because of psychological, emotional and intellectual manipulation: mind control. The world of "1984" arrived unnoticed in America. Psychological warfare is being waged against an unsuspecting public. The problems in America are the result of people being led to believe things that are not true. Most people don't pay conscious attention to the things that affect them subconsciously. They don't usually know what to look for. However, when pointed to, these things can be recognized and understood. America has been lulled into a deeeep sleeeep and it is time to wake up.

The principles of mind control, hypnotic suggestion and mental programming are ancient (the term used doesn't matter, the principles remain the same). The goal is to suspend the thought processes of the conscious mind to cause a state of mind that is similar to day dreaming. Stop conscious thought, and the mind is in its most suggestible state and thereby more receptive to programming.

Think of the times you have caught yourself staring blankly at the television screen, losing all sense of time and place. When you stop conscious thinking and your mind goes blank, this is the hypnotic state of mind. Remember seeing flashing words and numbers in TV commercials? Your eyes lock onto the flashing images, thus inducing hypnosis to reduce resistance to the message being presented by stopping all thought and analysis. Though not consciously perceived, the television screen, while appearing static, actually flickers.

Any repeating light or sound pattern can lead one into an altered state. A hypnotist uses patterned speech by varying the pacing and inflection of his voice to induce this state of mind in his subject. It is in this state of mind where one is the most receptive to mental programming. Whether or not the information takes hold in the mind depends on two factors: trust in the source of the information, and repetition of the message. Trust in the source of the information induces acceptance of the message as true even if it is not understood. Repetition of the message embeds it in the subconscious, so that acceptance of its truth and accuracy becomes a conditioned response. Thus, this information will be accepted as true without thinking about it whenever it is presented again.

The patterned speech of a newscaster is similar to that of a hypnotist. The eye contact made with the viewer is also a hypnotic technique. And a newscaster is also an accepted and respected authority figure, thus encouraging acceptance of the information presented as true and accurate.

Think for a moment about the way newscasters speak and you will realize they all talk the same way regardless of their ethnic background. Whether they be black, white, Hispanic or Oriental, with few exceptions, they all sound alike. The patterned speech of a newscaster is similar to that of a hypnotist. The eye contact made with the viewer is also a hypnotic technique. And a newscaster is also an accepted and respected authority figure, thus encouraging acceptance of the information presented as true and accurate.

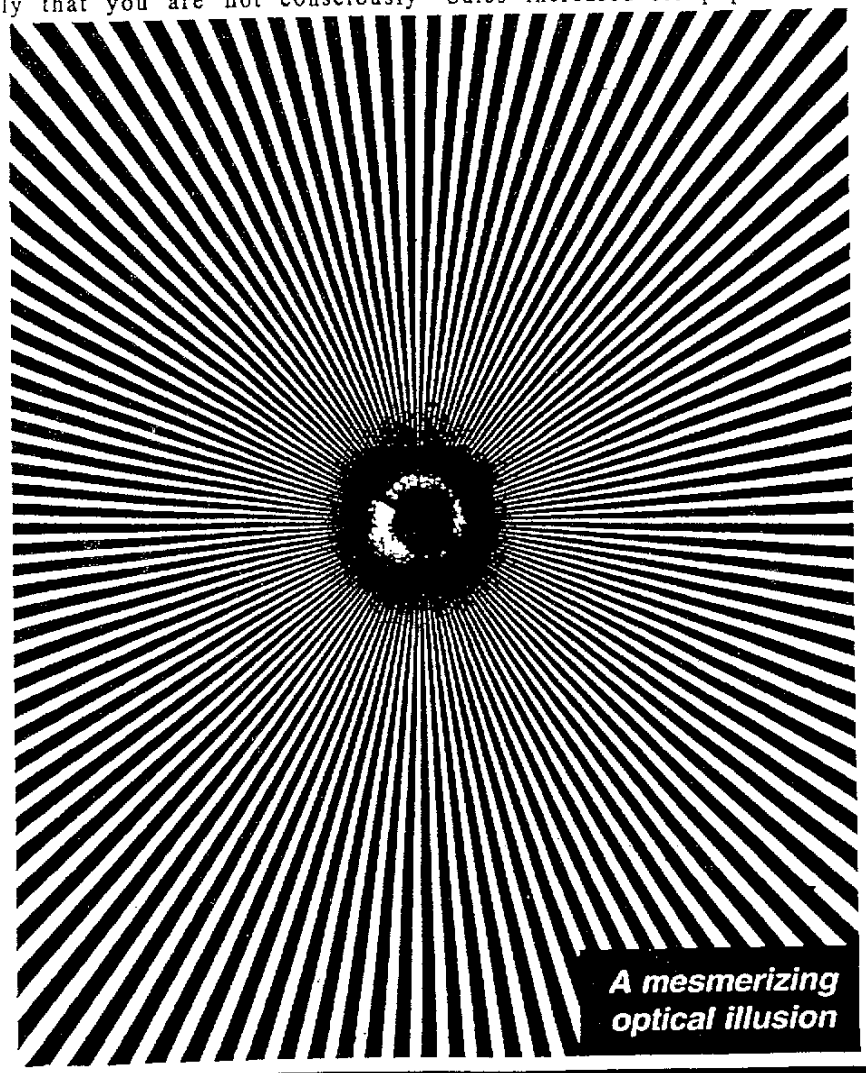
Studies over the years have demonstrated that many people, especially young people, unquestioningly accept the reality presented by television. Popular culture (movies, television and music) carries messages about how society works and how people should behave. Entertainment is not value-free. It has ideological content and presents a world view that influences those who watch the programming. The population has been conditioned by a mass-media created culture. Long-term exposure to

this artificial reality cannot help but have an enormous impact on the social and political life of the nation. Add to this the inherent nature of television to induce the hypnotic state of mind regardless of content, and you have the most potent instrument for mass persuasion in the history of the world.

On June 22, 1956 the British Broadcasting Corp. experimented with projecting subliminal images on television. Pictures were flashed on the screen too quickly to be seen consciously, but they did make an impression on the subconscious. Subliminal perception is the process whereby you receive and respond to visual and sound information without being aware of it. The message, in the form of printed words, pictures or voices, is presented either so rapidly or so faintly that you are not consciously aware of having seen or heard anything. The BBC experiment was followed by an experiment by the Canadian Broadcasting Corp. doing the same thing: projecting subliminal images. In the U.S., TV station WTWO in Bangor, Maine conducted a similar experiment in November, 1957.

Experiments were not limited to television. In 1958, radio station WAAF in Chicago broadcast "subaudible" commercials. Seattle's KOL broadcast barely audible taped messages "below" the music played by its disk jockeys. Marketing researcher and psychologist James Vicary tested subliminal ads in a New Jersey movie theater. "Hungry? Eat Popcorn" and "Drink Coca-Cola" were flashed on the screen at 1/3000 of a second every five seconds during the movie. Sales increased for popcorn and Coca-Cola. Every major advertising agency has sponsored extensive research into subliminal perception. Vance Packard's 1957 book "The Hidden Persuaders" revealed that American industry was researching the use of subliminal messages to motivate people to buy their products. Dr. Wilson Bryan Key has written four books exposing the widespread use of subliminal ads by the advertising industry.

Even children are exploited for profit. According to an ad executive, "When you sell a kid on your product, if he can't get it, he will throw himself on the floor, stamp his feet, and cry. You can't get a reaction like that out of an adult." Research on children begins as early as ages two and three using the psychological techniques of finger sensors, eye-tracking and brainwave measurements.



A mesmerizing optical illusion

Using what was called the Precon Process, the picture of a skull and the word BLOOD were flashed subliminally on the screen in the 1958 movie "My World Dies Screaming." Some words and images trigger strong emotional responses in people. Laboratory experiments show that people will react to words like BLOOD and to pictures of skulls with indications of heightened emotions such as quickened pulse, faster breathing and sweating palms.

The "Exorcist" used both subliminal sounds and pictures. A full-screen death mask of Father Karras was flashed on the screen at 1/48th of a second during the movie. The terrified squealing of pigs being slaughtered and the buzzing sound of angry bees was mixed into the soundtrack. People actually fainted in response to this movie, many became nauseated and many had nightmares. Note that William Peter Blatty, the author of the novel and producer of the movie, was a CIA operative who served as the policy-branch chief of the Psychological Warfare Division of the United States Air Force.

"The foundation of film art is editing," wrote the Russian film director Pudovkin in the preface of the German edition of his book

on film techniques. In an experiment at the Moscow Film School, Lev Kuleshov created the impression of a single actress by joining the face of one woman, the torso of another, the hands of another and the legs of yet another. An anonymous British film technician is quoted in a front-page article in the *London Tribune* August 5, 1949 saying: "We claim that with judicious cutting and an adroit use of camera angles, it is simple to make a fool of anybody. We can distort the emphasis and meaning of Minister's speeches not only by cutting out statements but by simple use of long shot, medium shot and close-up. For any statement said in close-up is given greater significance on the screen than one said in long shot. There is no end to the tricks we can play with this simple device."

A picture may be worth a thousand words, but it can also deceive one into believing something that is not true. Some of the most spectacular footage of the San Francisco earthquake and fire in 1906 was faked.

Newsreel companies often staged events. During the Mexican Revolution in 1914, they made arrangements with Pancho Villa to fight his battles in daylight and to wait until the cameras were in place before launching his attack. Much of the newsreel coverage of World War I was faked. *Literary Digest* printed an expose in its November 13, 1915 issue. The practice of faking scenes of celebrities by employing impersonators was frequently used by *The March of Time* screen magazine. Known instances of content manufacture, re-creation and personality impersonation are documented by Raymond Fielding in "The American Newsreel." The capacity to lie with a picture and be undetected has been greatly enhanced by modern computer technology.

On October 30, 1938 thousands of people fled from a crisis that had no existence except in their imaginations. A radio broadcast of H.G. Welles' "War of the Worlds" led thousands of listeners to believe that the planet earth had been invaded by Martians! "we are ready to believe almost anything if it comes from a recognized authority," writes Howard Koch in his book, "The Panic Broadcast." Koch wrote the radio script performed by Orson Welles and his Mercury Theater on CBS.

Produced on videotape for realism, the 1983 made-for-TV movie "Special Bulletin" about terrorists exploding an atomic bomb in Charleston, S.C. looks and sounds like a real news broadcast in every detail. Like the radio broadcast of "The War of the Worlds," the cast of characters include the anchorperson(s). and correspondents reporting from the field and outside "experts" brought in to comment on new developments. In both instances, despite disclaimers, people thought they were listening to an authentic newscast.

Motion pictures were an effective propaganda weapon during both world wars. German Chief of Staff Erich Ludendorff, writing in 1917, said: "The war has demonstrated the superiority of the photograph and the film as a means of information and persuasion."

These loud, low-frequency vibrations and the driving beat of most rock music affect the pituitary gland, which controls male and female sexual responses.These low-frequency vibrations reverberate in the lower parts of the body so that the music "feels" good

Lenin considered the cinema the most important of the arts and established a state school for cinematography two years after the Communist takeover of Russia. "Molding the feeling and intelligence of the masses is one of our political problems and for this end we find the movies most effective," said Russian film director Sergei Eisenstein. All totalitarian movements are vitally concerned with the indoctrination of the population, particularly the young people of the nation. Because of this, the arts are of great importance. Art is a way of seeing. What we see in art defines what we understand to be "reality." The most successful propaganda uses the arts as a weapon to influence and control the thinking and behavior of the target population.

The power of music has been recognized throughout history. According to Confucius, "If one should desire to know whether a kingdom is well-governed, if its morals are good or bad, the quality of its music will furnish the answer." Change in musical style is inevitably followed by a change in politics and morality. Change swept Western civilization, not just America, in the 1960's that was brought about by change in popular music. Plato and Aristotle believed that people could be controlled by music. In Nazi Germany, the government used music to create a state of mind in the German people. In Orwell's "1984," music is tightly controlled because of its power to communicate and influence behavior.

Your entire body is sensitive to sound. Sound causes changes in body chemistry, blood pressure, breathing and digestion. Fast music will speed up the nervous system while slow music will slow it down. Sounds vibrate in different parts of the body. Low tones will vibrate in the lower parts of the body, and high tones will vibrate in the higher portions and on into the head. Much of today's popular rock music is built around a heavy bass pattern louder than the melody. These low-frequency vibrations reverberate in the lower parts of the body so that the music "feels" good. These loud, low-frequency vibrations and the driving beat of most rock music affect the pituitary gland, which controls male and female sexual responses. The repeating sound pattern induces the hypnotic state of mind that is similar to day dreaming, thus clearing the mind of all thought so that the message can be implanted in the

subconscious without resistance.

It is important to note that the lyrics of many rock songs are not clearly distinguishable consciously. When you do not hear the message clearly, you cannot make the conscious choice to accept or reject it. When you cannot make that choice or when that choice is taken away from you, the message is programmed directly to the subconscious, thus circumventing analysis and choice in accepting the content of the message. Sixties rock superstar Jimi Hendrix said: "You can hypnotize people with music, and when you get them at their weakest point, you can preach into their subconscious whatever you want to say."

Although the message of some rock music is thoughtful and positive, the message of many rock videos and the music, particularly "heavy metal," is a negative mental program that glorifies violence and deviant behavior. Recurring themes are preoccupied with violence, rape, sadomasochism, suicide, illicit sex, drug and alcohol abuse, fascination with the occult and, in some instances, race antagonism. Long-term exposure to negative messages cannot help but have a profoundly damaging influence on people, especially young people.

Many ancient civilizations recognized that music plays an important role in determining the character and direction of society. They also believed that music possesses a tangible power that could be applied to bring about change within an individual or society as a whole. Such power in the hands of evil or ignorant men would have dire consequences for society.

The purpose of propaganda is to direct public attention to certain "facts." "The whole art consists in doing this so skillfully that everyone will be convinced that the fact is real," wrote Adolf Hitler in "Mein Kampf." He described the principles of effective propaganda: it must be aimed at the emotions; it must be limited to a few points; it must repeat those points over and over again until the public believes it. To be effective, propaganda must constantly short-circuit all conscious thinking and operate on the individual subconsciously.

The principles behind "The Big Lie" of propaganda are the same principles of mind control, hypnotic suggestion and mental programming: distraction and repetition. Distraction focuses the attention of the conscious mind on one or more of the five senses in order to stop conscious thinking, thus producing the hypnotic state of mind. Repetition of the message constitutes mental programming. Propaganda draws attention away from information that is true and directs attention to information that is false. It is accomplished scientifically.

In 1936, a movie used hypnotic suggestion to give the audience instructions to do something. That movie was "Reefer Madness." Shown widely on college campuses and at midnight screenings across the country since 1972, "Reefer Madness" uses hypnotic techniques to both encourage marijuana use

DAILY NEWS FINAL

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New York World-Telegram

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Phone BArclay 7-8811.

Owned and published daily (except Sunday) by New York World-Telegram Corporation, Main office, 125 Barclay Street, Brunch offices, 16 West 42nd Street, corner Broadway (Room 304).

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Subscription rate by mail for New York World-Telegram in the United States (outside of New York City), one year, $12.00.

TUESDAY, NOVEMBER 1, 1938.

"Frighted with False Fire."

It is strange and disturbing that thousands of Americans, secure in their homes on a quiet Sunday evening, could be scared out of their wits by a radio dramatization of H. G. Wells' fantastic old story, "The War of the Worlds."

We're sure the 23-year-old actor, Orson Welles, didn't realize the panic he was spreading from coast to coast among people who believed that monsters from Mars actually had invaded New Jersey.

Yet young Mr. Welles, a student of Shakespeare, might have remembered Hamlet and, remembering, might have foreseen the effect of too much dramatic realism on an audience already strung to high nervous tension.

Hamlet it was who staged a play to "catch the conscience" of the King of Denmark, his uncle, who had murdered Hamlet's father, seized the throne and married the widowed queen. This play within a play also concerned the murder of a king. And, as Hamlet had intended, his uncle and his mother were driven to such hysterical terror that they refused to watch it to the end.

"What, frighted with false fire!" exclaimed Hamlet with bitter scorn, certain now of his uncle's guilt.

Unlike Hamlet, young Mr. Welles did not plan deliberately to demoralize his audience. And no guilty consciences, but nerves made jittery by actual, though almost incredible, threats of war and disaster, had prepared a good many American radio listeners to believe the completely incredible "news" that Martian hordes were here.

Of course it should never happen again. But we don't agree with those who are arguing that the Sunday night scare shows a need for strict government censorship of radio programs.

On the contrary, we think it is evidence of how dangerous political control of radio might become. If so many people could be misled unintentionally, when the purpose was merely to entertain, what could designing politicians not do through control of broadcasting stations.

The dictators in Europe use radio to make their people believe falsehoods. We want nothing like that here. Better have American radio remain free to make occasional blunders than start on a course that might, in time, deprive it of freedom to broadcast uncensored truth.

And it should be easy for radio to avoid repeating this particular blunder. The Columbia system, as a result of its unhappy experience Sunday night, has already pointed the way. Let all chains, all stations, avoid use of the news broadcasting technique in dramatizations when there is any possibility of any listener mistaking fiction for fact.

and promote anti-marijuana legislation.

The stated intent of "Reefer Madness" was to stamp out the menace of marijuana because it leads to "acts of shocking violence, ending often in incurable insanity." In contrast, young people are shown having a good time smoking marijuana, partying, dancing, kissing and retreating to the bedroom. By showing young people having a good time smoking marijuana, "Reefer Madness" encourages young people to at least try it. By confusing marijuana with heroin and by telling the story of normal kids going berserk because of marijuana, "Reefer Madness" scares older people into demanding that government do something.

Speaking to a PTA meeting, a high school principal, Dr. Carroll, commands parents to stamp out this "assassin of our youth." When Dr. Carroll begins to speak, he raises a sheet of paper in front of him and reads certain "facts" from it. The white sheet of paper prominent in the middle of the screen is a distraction for the eyes to lock onto in order to induce the hypnotic state of mind while information is programmed to the audience verbally. A hypnotist leads his subject into this state of mind by placing a bright object in front of his eyes and causing him to gaze upon it with persistent attention.

Dr. Carroll delivers his lines with a hypnotic rhythm that is punctuated by changes in pacing, volume and tone (just like a hypnotist). He speaks with authority and looks into the camera and into the eyes of the audience; both are hypnotic techniques.

In the book "Outsiders," Howard S. Becker describes how the Federal Bureau of Narcotics under Harry Anslinger created the marijuana problem to cause the public to demand legislation. There are striking similarities between an article written by Anslinger that appeared in the July 1937 issue of *The American Magazine* entitled "Marijuana -Assassin of Youth" and the content of the movie "Reefer Madness."

For example, from the article: "In 1931, the marijuana file of the United States Narcotics Bureau was less than two inches thick, while today the reports crowd many large cabinets." Compare this to what appeared in the movie. Dr. Carroll is with a government agent who says: "Let me show you something. In 1930, the records on marijuana filled a small folder like this (less than two inches thick). Today, they fill cabinets." The camera shows us a wall lined with file cabinets. "Atrocity" stories that were first reported by the Bureau also appear in "Reefer Madness."

This movie was part of a well-orchestrated propaganda campaign that included newspapers, magazines and radio. In 1937, about a year after the release of the movie, the Marijuana Tax Act was signed into law with a major effect being to drive prices up for marijuana to make its cultivation and distribution profitable. The strategy used is a classic example of Hegelian Dialectics -a method to bring about change in a three-step process. The first step is to create a problem. The second step is to create opposition to the problem -an opposing force that will serve as a catalyst for action. The third step is to offer the solution that will lead to a predetermined goal, thus bringing about change that would have been impossible to impose on people without proper psychological conditioning.

The relationship between the increase in crime and violence and the decrease in individual rights is another example of this strategy in action. A progressively more graphic depiction of violence in movies, television and music desensitizes people, especially young people, to real-life violence and increases tension, anxiety and fear among older people who are encouraged to demand that government do something.

By causing emotional stress and mental confusion, judgment is impaired and suggestibility increased. Under these conditions people allow their rights to be diminished for the promise of security. There can be no doubt about the causal relationship between media violence and what is happening in cities and towns across the nation

"The nearly complete monopoly of mass communications is generally agreed to be one of the most striking characteristics of totalitarian dictatorships," wrote President Carter's National Security Adviser Zbigniew Brzezinski in the book "Totalitarian Dictatorship and Autocracy." There could be no effective propaganda without mass media. The consolidation of ownership of the press, publishing, radio, TV and film makes the coordination of propaganda possible. Former national editor at *The Washington Post* and dean of the Graduate School of Journalism at the University of California at Berkeley, Ben Bagdikian, has documented the consolidation of ownership of mass media in "The Media Monopoly."

The 1940 Republican Presidential candidate Wendell L. Wilkie was chairman of the board of Twentieth Century-Fox Film Corporation in 1942. William P. Rogers, secretary of state during the Nixon administration, was on the board of directors of Twentieth Century-Fox as well as former President Gerald R. Ford and Henry Kissinger. Former Vice President Walter F. Mondale was a member of the board of directors of Columbia Pictures and former Secretary of State Alexander M. Haig, Jr. was on the board of directors of MGM/UA Entertainment Company.

Entertainment is not just entertainment. It is also propaganda. In Orwell's "1984," every room contains a television screen that floods people's minds with a constant flow of information. The primary means for controlling people is the control of information. According to Homer Simpson, the answers to life's problems are on TV. And like the cartoon character, the American people have been programmed to look to the media for their answers as well. When enough people understand how they are controlled, the control will end.

ABOUT THE AUTHOR:
Steven Jacobson is a graduate of the Boston University School of Communications and worked in the film industry for 13 years with both documentary and theatrical film experience. In 1980, he was given the results of private research investigating hypnosis, leading to his investigation of the use of hypnotic techniques in mass media and the production of the audio cassettes "Mind Control In America" and "Wake - Up America."

U S NEWS & WORLD REPORT
July 7, 1997

War ◆ Joy Ride Around

For Reference

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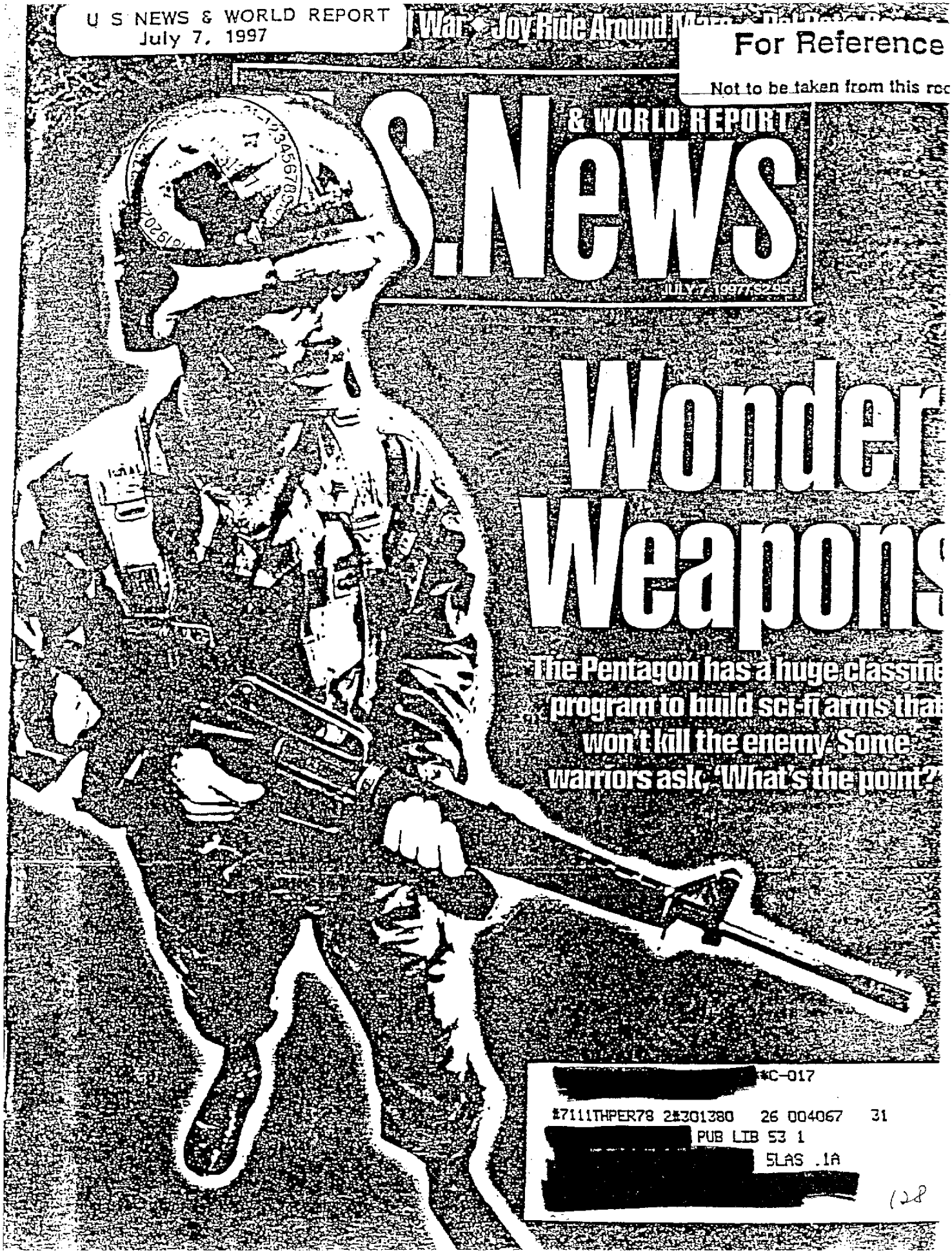
U.S. NEWS & WORLD REPORT

JULY 7, 1997/$2.95

Wonder Weapons

The Pentagon has a huge classifie program to build sci-fi arms that won't kill the enemy. Some warriors ask, 'What's the point?'



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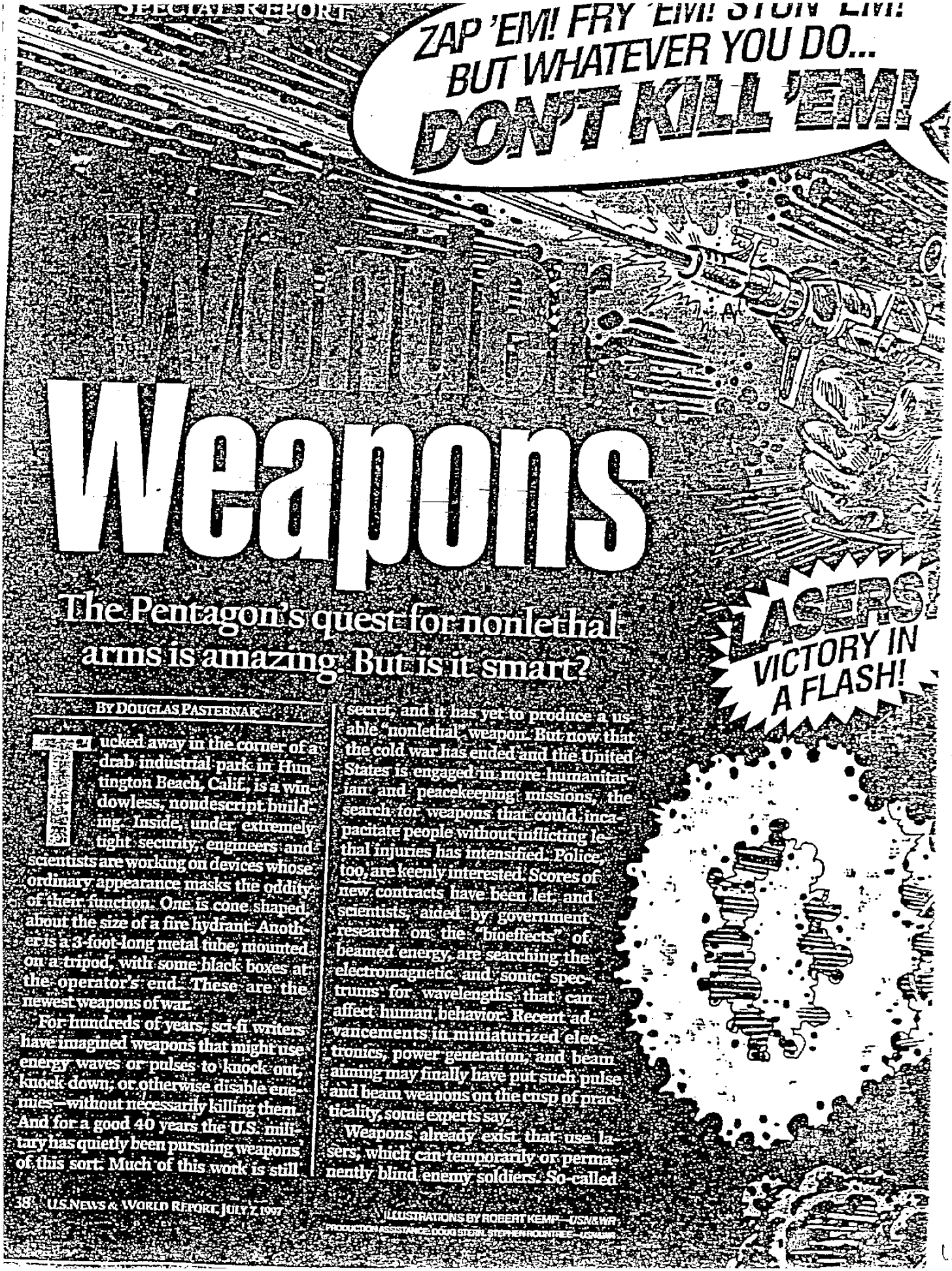


Nonlethal Weapons

The Pentagon's quest for nonlethal arms is amazing. But is it smart?

BY DOUGLAS PASTERNAK

Tucked away in the corner of a drab industrial park in Huntington Beach, Calif., is a windowless, nondescript building. Inside, under extremely tight security, engineers and scientists are working on devices whose ordinary appearance masks the oddity of their function. One is cone shaped, about the size of a fire hydrant. Another is a 3-foot-long metal tube, mounted on a tripod, with some black boxes at the operator's end. These are the newest weapons of war.

For hundreds of years, sci-fi writers have imagined weapons that might use energy waves or pulses to knock out, knock down, or otherwise disable enemies—without necessarily killing them. And for a good 40 years the U.S. military has quietly been pursuing weapons of this sort. Much of this work is still secret, and it has yet to produce a usable "nonlethal" weapon. But now that the cold war has ended and the United States is engaged in more humanitarian and peacekeeping missions, the search for weapons that could incapacitate people without inflicting lethal injuries has intensified. Police, too, are keenly interested. Scores of new contracts have been let, and scientists, aided by government research on the "bioeffects" of beamed energy, are searching the electromagnetic and sonic spectrums for wavelengths that can affect human behavior. Recent advancements in miniaturized electronics, power generation, and beam aiming may finally have put such pulse and beam weapons on the cusp of practicality, some experts say.

Weapons already exist that use lasers, which can temporarily or permanently blind enemy soldiers. So-called

ILLUSTRATIONS BY ROBERT KEMP—USN&WR
PRODUCTION ASSISTANCE: DOUG STORK, STEPHEN ROMINEE—USN&WR

avy SEAL Team 5 were positioned at the uth end of Mogadishu airport. At 7 a.m., echnician from the Air Force's Phillips boratory, developer of the lasers, used e to illuminate a Somali man a...ed h a rocket-propelled grenade. A SEAL per shot and killed the Somali. There s no question the Somali was aiming at SEALs. But the decision not to use the r to dazzle or temporarily blind the n irks some of the nonlethal-team nbers. "We were not allowed to disable e guys because that was considered in-ane," said one. "Putting a bullet in r head is somehow more humane?"

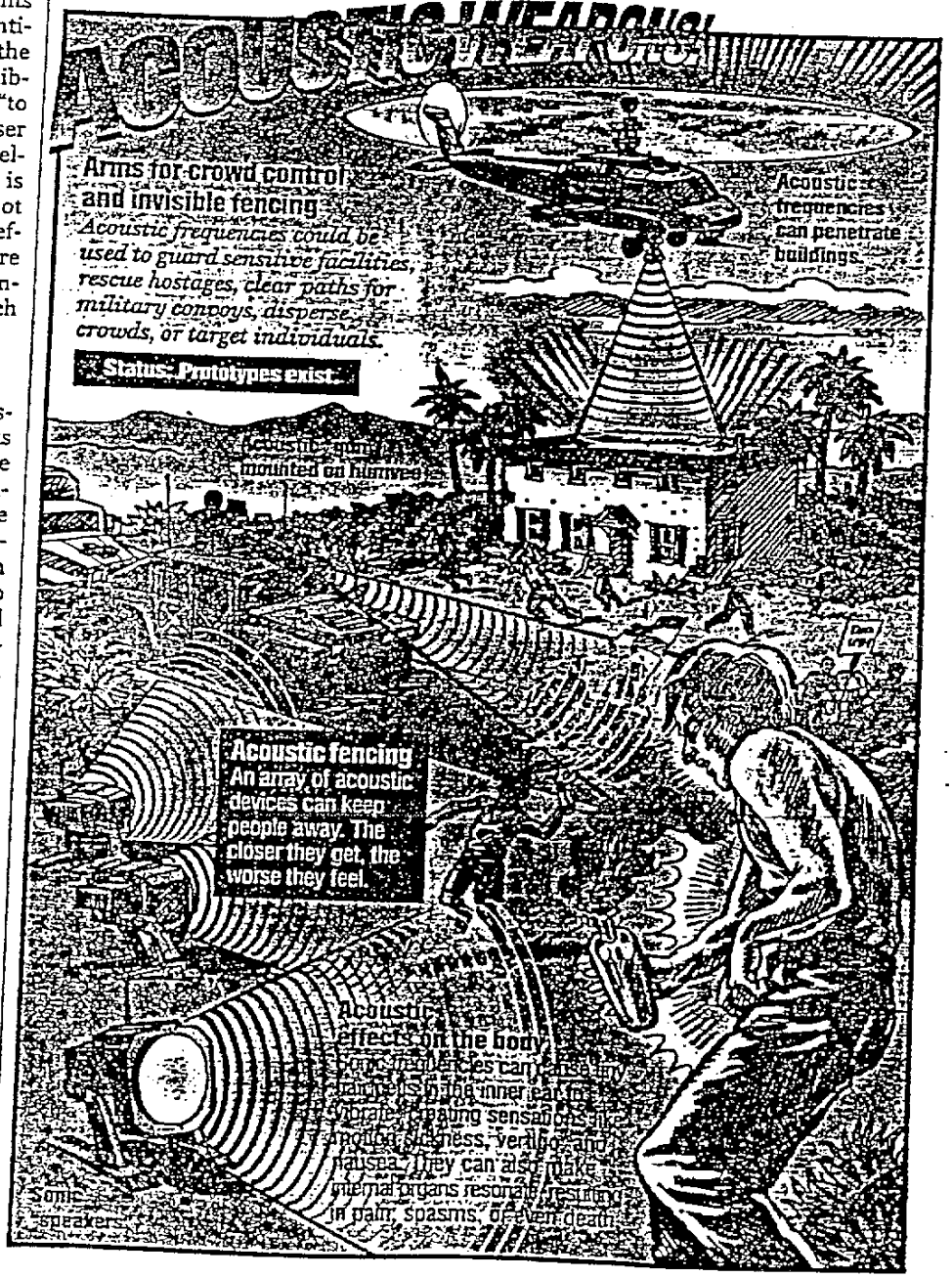
espite such arguments, the Interna-al Red Cross and Human Rights ch have since led a fight against anti-onnel lasers. In the fall of 1995, the ed States signed a treaty that prohib-ie development of lasers designed "to e permanent blindness." Still, laser ons are known to have been devel- by the Russians, and proliferation is concern. Also, the treaty does not d dazzling or "glare" lasers, whose ef-are temporary. U.S. military labs are nuing work in this area, and com-ial contractors are marketing such to police.

stic pain

ext debate may well focus on acous-sonic weapons. Benign sonic effects rtainly familiar, ranging from the boom from an airplane to the ultra-instrument that "sees" a baby in the . The military is looking for some-less benign—an acoustic weapon requencies tunable all the way up to Indeed, Huntington Beach-based ific Applications & Research Asso-Inc. (SARA) has built a device that ake internal organs resonate: The can run from discomfort to damage th. If used to protect an area, its would make intruders increasingly fortable the closer they get. "We ilt several prototypes," says Parviz ni, SARA's CEO. Such acoustic he says, could be deployed today. mates that five to 10 years will be to develop acoustic rifles and oth-exotic weapons, but adds, "I have eople as optimistic as one to two The military also envisions acous-s being used to control riots or to ths for convoys.

s acoustic devices have already ted at the Camp Pendleton Ma-ps Base, near the company's Hun-Beach office. And they were con-for Somalia. "We asked for ," says one nonlethal weapons o was there. But the Department of Defense said, "No," since they were still untested. The Pentagon feared they could have caused permanent injury to pregnant women, the old, or the sick. Parhami sees acoustics "as just one more tool" for the military and law enforcement. "Like any tool, I suppose this can be abused," he says. "But like any tool, it can be used in a humane and ethical way."

Toward the end of World War II, the Germans were reported to have made a different type of acoustic device. It looked like a large cannon and sent out a sonic boomlike shock wave that in theory could have felled a B-17 bomber. In the mid-1940s, the U.S. Navy created a program called Project Squid to study the German vortex technology. The results are unknown. But Guy O...lensky, an American inventor, says he replicated the Nazi device in his laboratory in 1949. Against hard objects the effect was astounding, he says: It could snap a board like a twig. Against soft targets like people, it had a different effect. "I felt like I had been hit by a thick rubber blanket," says Obolensky, who once stood in its path. The idea seemed to founder for years until recently, when the military was intrigued by its nonlethal possibilities. The Army and


Arms for crowd control and invisible fencing
Acoustic frequencies could be used to guard sensitive facilities, rescue hostages, clear paths for military convoys, disperse crowds, or target individuals.
Status: Prototypes exist.
Acoustic frequencies can penetrate buildings
mounted on Humvee
Acoustic fencing
An array of acoustic devices can keep people away. The closer they get, the worse they feel.
Acoustic effects on the body
Sonic speakers

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Navy now have vortex projects underway. The SARA lab has tested its prototype device at Camp Pendleton, one source says.

Electromagnetic heat

The Soviets were known to have potent blinding lasers. They were also feared to have developed acoustic and radio-wave weapons. The 1987 issue of *Soviet Military Power*, a cold war Pentagon publication, warned that the Soviets might be close to "a prototype short-range tactical RF [radio frequency] weapon." The *Washington Post* reported that year that the Soviets had used such weapons to kill goats at 1 kilometer's range. The Pentagon, it turns out, has been pursuing similar devices since the 1960s.

Typical of some of the more exotic proposals are those from Clay Easterly. Last December, Easterly—who works at the Health Sciences Research Division of Oak Ridge National Laboratory—briefed the Marine Corps on work he had conducted for the National Institute of Justice, which does research on crime control. One of the projects he suggested was an electromagnetic gun that would "induce epilepticlike seizures." Another was a "thermal gun [that] would have the operational effect of heating the body to 105 to 107° degrees Fahrenheit. Such effects would bring on discomfort, fevers, or even death.

But, unlike the work on blinding lasers and acoustic weapons, progress here has been slow. The biggest problem is power. High-powered microwaves intended to heat someone standing 200 yards away to 105 degrees Fahrenheit may kill someone standing 10 yards away. On the other hand, electromagnetic fields weaken quickly with distance from the source. And beams of such energy are difficult to direct to their target. Mission Research Corp. of Albuquerque, N.M., has used a computer model to study the ability of microwaves to stimulate the body's peripheral nervous system. "If sufficient peripheral nerves fire, then the body shuts down to further stimulus, producing the so-called stun effect," an abstract states. But, it concludes, "the ranges at which this can be done are only a few meters."

Nonetheless, government laboratories and private contractors are pursuing numerous similar programs. A 1996 Air Force Scientific Advisory Board report on future weapons, for instance, includes a classified section on a radio frequency or "RF Gunship." Other military documents confirm that radio-frequency antipersonnel weapons programs are underway. And the Air Force's Armstrong Laboratory at Brooks Air Force Base in Texas is heavily engaged in such research. According to budget documents, the lab intends to spend more than $110 million over the next six years "to exploit less-than-lethal biological effects of electromagnetic radiation for Air Force security, peacekeeping, and war-fighting operations."

VORTEX WEAPONS
They may be hand held or vehicle mounted.
These arms can knock down people or even aircraft
The vortex gun expels a doughnut-shaped shock wave that could knock people down. The gun could also be filled with gases or chemical agents. A vortex ring of pepper spray, for instance, would stun its victims with both a physical blow and a chemical irritant.
Stun: Prototype
Explosive charge creates vortex in shock tube
Shock wave hits body
The vortex ring would travel at hundreds of miles per hour
The vortex ring must spin at Mach 1 or faster to create shock wave
They may also contain chemical agents such as pepper spray.
Vortex technology
The vortex gun fires a doughnut-shaped wave with a powerful center. Lab tests show vortexes can break wooden boards across a room. When they strike a person, the effect is like being hit with a heavy blanket.

Low-frequency sleep

From 1980 to 1983, a man named Eldon Byrd ran the Marine Corps Nonlethal Electromagnetic Weapons project. He conducted most of his research at the Armed Forces Radiobiology Research Institute in Bethesda, Md. "We were looking at electrical activity in the brain and how to influence it," he says. Byrd, a specialist in medical engineering and bioeffects, funded small research projects, including a paper on vortex weapons by Obolensky. He conducted experiments on animals—and even on himself—to see if brain waves would move into sync with waves impinging on them from the outside. (He found that they would, but the effect was short lived.)

By using very low frequency electromagnetic radiation—the waves way below radio frequencies on the electromagnetic spectrum—he found he could induce the brain to release behavior-regulating chemicals. "We could put animals into a stupor," he says, by hitting them with

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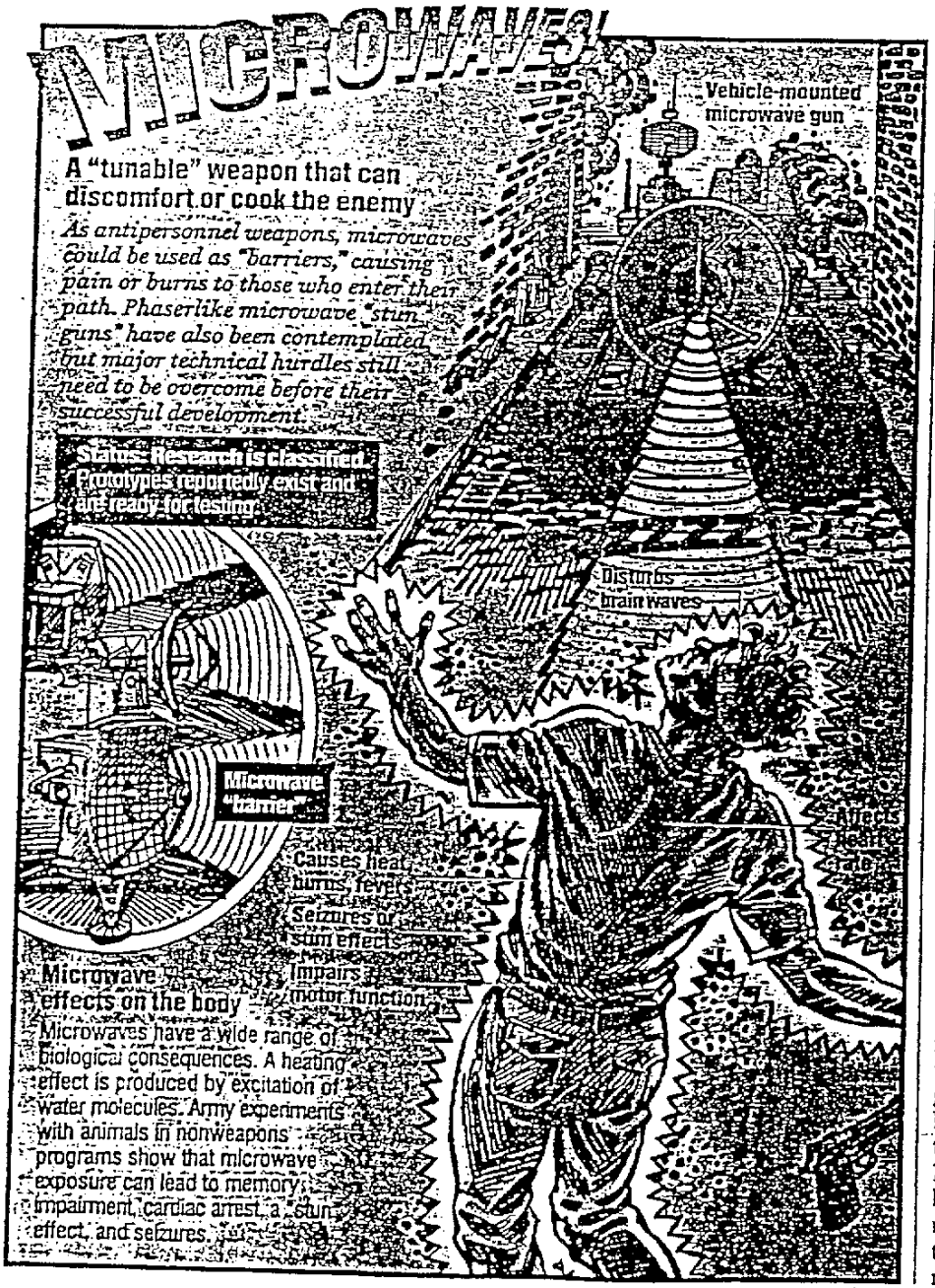
these frequencies. "We got chick brains—in vitro—to dump 80 percent of the natural opioids in their brains," Byrd says. He even ran a small project that used magnetic fields to cause certain brain cells in rats to release histamine. In humans, this would cause instant flulike symptoms and produce nausea. "These fields were extremely weak. They were undetectable," says Byrd. "The effects were nonlethal and reversible. You could disable a person temporarily," Byrd hypothesizes. "It [would have been] like a stun gun."

Byrd never tested any of his hardware in the field, and his program, scheduled for four years, apparently was closed down after two, he says. "The work was really outstanding," he grumbles. "We would have had a weapon in one year." Byrd says he was told his work would be unclassified, "unless it works." Because it worked, he suspects that the program "went black." Other scientists tell similar tales of research on electromagnetic radiation turning top secret once successful results were achieved. There are clues that such work is continuing. In 1995, the annual meeting of four-star U.S. Air Force generals—called CORONA—reviewed more than 1,000 potential projects. One was called "Put the Enemy to Sleep/Keep the Enemy From Sleeping." It called for exploring "acoustics," "microwaves," and "brain-wave manipulation" to alter sleep patterns. It was one of only three projects approved for initial investigation.


MICROWAVES
A "tunable" weapon that can discomfort or cook the enemy
As antipersonnel weapons, microwaves could be used as "barriers," causing pain or burns to those who enter their path. Phaserlike microwave "stun guns" have also been contemplated, but major technical hurdles still need to be overcome before their successful development.
Status: Research is classified. Prototypes reportedly exist and are ready for testing.
Vehicle-mounted microwave gun
Disturbs brain waves
Microwave "barrier"
Causes heat burns, fevers
Seizures or stun effects
Impairs motor function
Affects heart rate
Microwave effects on the body
Microwaves have a wide range of biological consequences. A heating effect is produced by excitation of water molecules. Army experiments with animals in nonweapons programs show that microwave exposure can lead to memory impairment, cardiac arrest, a "stun" effect, and seizures.

Direct contact

As the military continues its search for nonlethal weapons, one device that works on contact has already hit the streets. It is called the "Pulse Wave Myotron." A sales video shows it in action. A big, thuggish-looking "criminal" approaches a well-dressed woman. As he tries to choke her, she touches him with a white device about the size of a pack of cigarettes. He falls to the floor in a fetal position, seemingly paralyzed but with eyes open, and he does not recover for minutes.

"Contact with the Myotron," says the narrator, "feels like millions of tiny needles are sent racing through the body. This is a result of scrambling the signals from the motor cortex region of the brain," he says. "It is horrible," says William Gunby, CEO of the company that developed the Myotron. "It is no toy." The Myotron overrides voluntary—but not involuntary—muscle movements, so the victim's vital functions are maintained. Sales are targeted at women, but law enforcement officers and agencies—including the Arizona state police and bailiffs with the New York Supreme Court—have purchased the device, Gunby says. A special model built for law enforcement, called the Black Widow, is being tested by the FBI, he says. "I hope they don't order a lot soon," he adds. "The Russian government just ordered 100,000 of them, and I need to replenish my stock."

The U.S. military also has shown interest in the Myotron. "About the time of the gulf war, I got calls from people in the military," recalls Gunby. "They asked me about bonding the Myotron's pulse wave to a laser beam so that everyone in the path of the laser would collapse." While it could not be done, Gunby says, he nonetheless was warned to keep quiet. "I was told that these calls were totally confidential," he says, "and that they would completely deny it if I ever mentioned it."

Some say such secrecy is necessary in new-weapons development. But others think it is a mistake. "Because the programs are secret, the sponsorship is low level, and the technology is unconventional," says William Arkin of Human Rights Watch Arms Project, "the military has not done any of the things to determine if the money is being well spent or the programs are a good idea." It should not be long before the evidence is in.

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Mind Control and the Murder of Robert F. Kennedy

The assassination of Senator Robert F. Kennedy on June 5, 1968, in the kitchen of the Ambassador Hotel in Los Angeles, remains a mystery. Despite the fact that a gun-wielding young Jordanian named Sirhan Sirhan was apprehended at the scene of the crime, and despite the expensive, well-publicized trial which convicted Sirhan of the murder, many responsible investigators point to the evidence of a second gun. Of a conspiracy.

Los Angeles County Chief Medical Examiner Thomas T. Noguchi conducted a meticulous autopsy whose findings were seconded by a panel from the Armed Forces Institute of Pathology. Noguchi established that three bullets struck RFK: Two entered from underneath and slightly to the back of his left armpit, while the fatal shot entered his skull just behind the right ear. Noguchi determined from powder burn patterns that the gun must have been no more than two or three inches away from Kennedy's head. No witness saw Sirhan get nearly so close to the Senator; Vincent DiPierro, who was so near the crime that RFK's blood splattered his face, insisted that Sirhan stood no more than four to six feet away. Moreover, no-one has yet persuasively resolved how Sirhan, who approached RFK from the front, managed to shoot the Senator from behind.

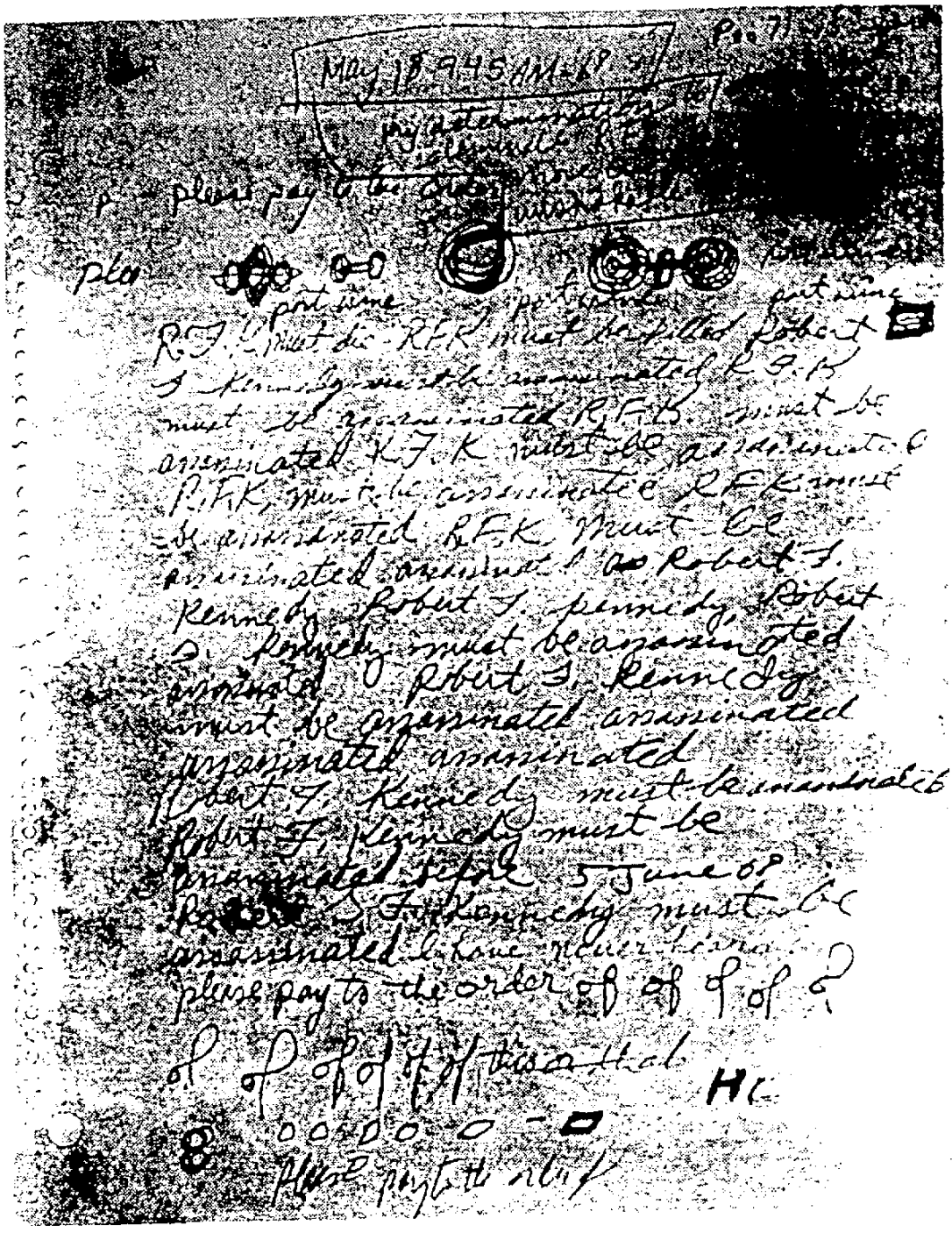
Sirhan's gun held only eight bullets, yet the evidence indicates that more than eight bullets were fired that night. Six people were wounded, including RFK, who was struck three times. A fourth shot passed through the shoulder pad in the Senator's jacket. The pantry ceiling panel contained three bullet holes. Police officers noted additional bullet holes in a nearby door frame; LAPD Sergeant Charles Wright testified that one of these bullets "definitely was removed from the hole."

The Los Angeles Police Department unit set up to investigate the murder was called Special Unit Senator, whose leading investigators had suspicious backgrounds: Lt. Manuel Pena and Sergeant Enrique "Hank" Hernandez had both worked the Agency for International Development, which, according to congressional investigators, functioned as a cover for CIA personnel. Hernandez bragged that he had been called "to South America, to Vietnam and Europe... The last [polygraph] test I administered was to the dictator in Caracas, Venezuela." Not the background of your average cop. A tape recording reveals that Hernandez' badgered witness Sandy Serrano (who testified to the presence of a Sirhan accomplice) was so severely she changed her story and confessed to an impossible scenario.

SUS maintained that no-one in the pantry other than Sirhan held extremist political beliefs. Apparently, SUS interviews weren't as thorough as they could have been: The security guard standing directly behind RFK was a vehement racist who despised the Kennedy family. According to witnesses, this guard drew a gun at the time shots rang out; one witness said that the guard fired, hitting Kennedy.

Yet even Sirhan Sirhan's defense team (headed by Grant Cooper, the lawyer for Mafioso Johnny Rosselli) conceded their client's sole responsibility for the shooting of RFK. Who is Sirhan Sirhan, and why was he in the kitchen that evening firing his weapon that night? Sirhan himself has repeatedly claimed that he cannot remember the events of that evening. Before the assassination, he filled the pages of his notebook with apparent "trance writing" which included repeated phrases such as "Please pay to the order of of of..." Interestingly, both defense and prosecution agreed that Sirhan had operated in an hypnotic trance that evening — although Dr. Bernard Diamond, the defense psychiatrist, claimed that Sirhan (who had shown an interest in mysticism) induced his own state of trance, using self-hypnosis.

One man disagreed with this assessment. Dr. Edward Simson-Kallas, chief of San Quentin's psychological testing program, examined Sirhan Sirhan carefully and became convinced that the accused assassin was a puppet, operating under a sophisticated form of mind control. Dr. Simson-Kallas is now deceased (coincidentally, his grave lies quite near that of conspiracy researcher Mae Brussell, in Monterey, California), but his affidavit in the Sirhan case remains fascinating evidence that American politics can be and has been affected by a real life "Manchurian Candidate." To the best of our knowledge, this important affidavit has never been fully published before.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Robert F. Kennedy must be assassinated before June 5th

EXHIBIT: THEODORE CHAIKEN PROBE
ATTN: ALTON LEEB/CC: GODFREY ISAAC

A F F I D A V I T

IN BEHALF OF SIRHAN SIRHAN PRESENTLY SERVING TIME IN SAN QUENTIN PRISON.

I, Dr. Eduard Simon, being first duly sworn, depose as follows:

1. I have been a resident of the State of California since 1949. I have lived in Monterey, California for more than five years.

2. I am now and for approximately seventeen years have been engaged in the field of clinical psychology and psychotherapy. I was licensed as a psychologist in the State of California in 1960.

3. My formal academic background includes graduation from Stanford University (A.B.), a M.A. from New York University, a M.Psy. from the University of Louisville, a Ph.D. (Magna Cum Laude) from Heidelberg University, and a Diploma in Community Psychiatry, State of California Center for Training in Community Psychiatry and Mental Health Administration in Berkeley. I was Post-Doctoral Fellow with the Devereux Foundation, and a USPHS-NIMH Post-Doctoral Fellow at the University of California, Berkeley.

4. My membership in professional organizations includes: Fellow-British Royal Society of Health; Fellow-American Society for Clinical Hypnosis-EBP; Fellow-International Council of Psychologists; Member-American Psychological Association, American and International Society for Clinical and Experimental Hypnosis, American Association of Mental Health Administrators and American Association of University

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5. My practical experience and positions held include five years Chief Clinical Psychologist, Monterey County Mental Health Services; six years, Senior Psychologist, California State Prison, San Quentin; four years Chief Psychologist, Hunterdon Medical Center, New Jersey; and two years Clinical Psychologist, Alaska Territorial Department of Health.

6. I have taught Abnormal Psychology and Methods of Psychotherapy at the University of California, Santa Cruz Extension Program as well as at the University of Hawaii, Hartnell College and California State University, San Jose, (a total of twenty-eight courses). I have also taught college extension courses for prisoners at Soledad Correctional Training Facility.

7. During my six years with the San Quentin Prison (two years full time, four years part time), I had an opportunity to study thousands of prisoners, including the condemned men on Death Row. For two years I was in charge of San Quentin Prison's psychological testing program.

During the summer of 1969, I interviewed and tested extensively and repeatedly during approximately twenty weekly visits, one particular inmate on Death Row, Sirhan Sirhan (accused of killing Senator Robert F. Kennedy).

8. After my visits with Sirhan were terminated, I found that Sirhan had repeatedly requested that his family contact me for the specific purpose of reviewing the psychiatric testimony that had been given at his trial. I reserved my decision to become further involved in this case until a much later date when I had the chance

to meet and talk to William W. Harper, a ballistic's expert and to study the trial transcripts. Mr. Harper's findings encouraged me to look further into the psychiatric testimony. I am appalled at the conduct of the mental health professionals involved in this case. It was with some reluctance that I agreed to examine the transcripts of the trial testimony as given by the psychologists and psychiatrists. I undertook the writing of this affidavit because I feel that it would be a disservice to the profession of psychology to let this matter rest without further review.

9. I discussed my findings with the prison's Chief Psychiatrist, Dr. David G. Schmidt. It was our conclusion that the findings reported during Sirhan's trial did not match but, in fact, were strictly in conflict with our findings elicited from Sirhan at San Quentin. My psychological test findings were strongly in conflict with the testimony of the trial's main witnesses, Dr. Diamond, Dr. Schorr, and Dr. Richardson, as well as with the testimony of psychologists performing "blind analysis" of Sirhan's "raw (test) data."

Nowhere in Sirhan's test responses was I able to find evidence that he is a "paranoid schizophrenic" or "psychotic" as testified by the doctors at the trial. My findings were substantiated by the observations of the Chief Psychiatrist at San Quentin, Dr. Schmidt, who also did NOT see Sirhan as psychotic or paranoid schizophrenic.

For instance, the bias and errors of the psychologists, such as Dr. Schorr, are well illustrated by the fact that his IQ estimates of Sirhan were significantly lower than those I obtained at San Quentin. During my testing at San Quentin, Sirhan obtained the following results on the Wechsler Adult Intelligence Scale:

Verbal IQ 129 (Very Superior)

Performance IQ 119 (Bright Normal)

Full Scale IQ 127 (Superior)

Dr. Schorr testified that his intelligence testing of Sirhan produced the following, much lower, IQ estimates:

Verbal IQ 109 (Average)

Performance IQ 82 (Dull-Normal)

Full Scale IQ 98 (Average)

From these scores, Dr. Schorr inferred and related to the jury that, based on his intelligence testing, Sirhan was a schizophrenic. Actually he was performing below his true intelligence because:

a) he was under stress of being imprisoned under very unusual circumstances,

b) he did not, as an Arab, want to cooperate with a Jewish doctor (doctors) he deeply distrusted.

This deep distrust, NORMAL (under the circumstances) was interpreted by his doctors as "paranoia", "schizophrenia", or "psychosis". None of these labels could describe Sirhan's behavior on Death Row where I found that his behavior fell well within the normal range.

10. The testimony of psychiatrists and psychologists, which I have carefully studied from trial transcripts, shows significant errors, distortions, even probable falsification of facts. The main reason for these errors rests largely on their belief that Sirhan killed Robert F. Kennedy. Their approach to examining Sirhan was highly misguided because of this preconceived notion. Had they known the ballistics evidence strongly contradicts Sirhan

having killed Robert F. Kennedy, their approach to interpreting Sirhan's test responses and spontaneous behavior would have been different. Pp 8063, 8068, 9, 70.

11. Assuming that Sirhan killed Robert F. Kennedy, an assumption, the validity of which apparently no one seriously questioned, the mental health specialists saw their role primarily in proving what to them was a known fact, rather than in discovering the truth. Consequently, since their approach was incorrect, they related erroneous conclusions to the jury.

12. The fact that the doctors examining Sirhan were mostly Jewish, whom Sirhan, as an Arab, highly distrusted, no psychological test results or hypnotic experiments conducted by them could be expected to yield valid information. The Jewish doctors, personally involved in the Arab-Jewish crisis, should have disqualified themselves. Psychological testing can provide valid information only when the subject trusts and fully cooperates with a psychologist. This Sirhan did with me, but, as he revealed to me, not with the court psychologists. Consequently, with or without hypnosis, the court psychiatrists and psychologists were NOT in a position to "unlock" Sirhan's mind. This could only be done by a doctor Sirhan fully trusted. I had become such a doctor for Sirhan. I believe I was well on my way to accomplishing this task, but could not complete it because my visits with Sirhan were abruptly terminated by San Quentin's Associate Warden James Park.

13. The following examples which I discovered in the trial transcipts serve as illustrations of the many errors and biases of

the psychologists and psychiatrists. They apparently were unaware of them because they had pre-judged Sirhan as guilty.

Dr. Richardson testified that he used his test responses alone for reaching his conclusions, yet he also admitted that even not using tests, the known act of killing the Senator, would have led a psychologist to assume he was dealing with a paranoid personalit Dr. Richardson told the jury (p. 6444) "...there is no denying that the first thing that would pop to mind is a paranoid personality - to a psychologist... Since we know that assassins far back in the United States history are people who tend to be paranoid people, and this is what we read in our textbooks, and so the assumption is paranoid." He also testified (p. 6443) that hearing and reading in the news media about Sirhan and his presumed killing of Robert F. Kennedy, before his testing, he was "feeling anger at Mr. Sirhan, a general feeling of wishing to punish (him)".

A doctor who feels anger at his client and wishes to punish him is a very poor doctor. His bias becomes an obstacle and he loses the necessary objectivity heeded to arrive at a professional judgement. In this case, he is no longer a doctor but an emotional layman and should decline to give testimony - just as jurors are disqualified whenever personal reasons interfere with impartial judgement necessary for a fair trial. Examinations of such a client should be left to a more objective, emotionally uninvolved psychologist or psychiatrist

14. The testimony of Dr. Schorr, the court's major psychologist witness, contains many errors. The test responses he claims to have obtained from Sirhan are much more "sick" than those I obtained and which others also obtained from Sirhan at San Quentin. For instance,

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Dr. Schorr's results from the Minnesota Multiphasic Personality Inventory, showed marked pathology and paranoia in contrast, the results of testing with the same test at San Quentin fell within the normal range. Had Sirhan been truly "schizophrenic", a chronic condition, he could not have produced normal responses during my repeated testing of him over a period of several months.

Dr. Schorr testified that Sirhan's MMPI was abnormal and it gave "...the truth, the whole truth, as Mr. Sirhan sees it and it is not a distortion due to conscious lying...what follows is valid, whatever follows is valid." (p. 5561)

This is a drastic overstatement and distortion of facts to the jury. I have seen thousands of MMPI results of inmates at San Quentin, where, under my direction, this test was administered once a year to almost all the prisoners. My conclusion was that the prison population the MMPI was a near-useless and possibly an invalid instrument which I was considering discontinuing altogether. The more intelligent a person is, the more quickly he learns to provide whatever responses he believes will be most advantageous to him; that is, he readily learns to falsify the results. The MMPI as a test has some value with naive individuals who are not under a specific stress. Dr. Schorr's testimony, based on the MMPI, was invalid and misleading to the jury.

15. To illustrate that the tester himself is an important variable and that he may influence the testing process, Dr. Schorr elicited twenty-six Rorschach responses from Sirhan (Dr. Schorr tested Sirhan December 1968, p. 7774), while another psychologist at the trial, Dr. Richardson, (Dr. Richardson tested Sirhan August 1968, p. 7764) elicited sixty-three responses!

16. It was improper and unethical for Dr. Richardson to change his psychological test findings after he read Dr. Schorr's report as he states he did (pp. 6416, 17, and 6447, 8).

Professionals must work independently in order not to be influenced by the bias of colleagues. Dr. Richardson utilized conclusions made by Dr. Schorr; at the same time, these psychologists made false statements to the court, testifying that they worked independently.

17. Dr. Schorr gave the "raw data" obtained from the non-cooperative Sirhan to other psychologists who compounded the errors because they lacked the most vital information, the observation of the subject's (Sirhan) behavior during testing. "Blind analyses" are not a valid means of testimony in court nor a valid procedure in clinical practice. A psychologist should never express an opinion on a client unless he or she personally examines him.

18. Dr. Seward testified she was asked by Dr. Pollack to do a "blind analysis" of Dr. Schorr's test materials by Dr. Pollack. She acknowledged and testified she used Dr. Schorr's evaluation which is an improper procedure:

"... It's the whole attitude with which the examiner approaches the subject who is going to be tested that is important. To get his cooperation. You can't get any kind of a valid response in IQ unless you are sure that your subject wants to work with you; that he is doing the best he can." (p. 7282)

Sirhan told me that he never gave such cooperation to his Jewish psychiatrists and psychologists either before or during the trial. This renders their test findings, hypnotic experiments and psychiatric interview material invalid. This misleading information should not have

been considered valid testimony at the trial.

19. In contrast to the psychiatrists-psychologists team on the trial there was one psychologist, Dr. Crain*, who followed the correct guidelines for mental health professionals; he refused to testify without, himself, seeing and examining Sirhan. Dr. William Crain testified (p. 6636):

"Clinical psychologists particularly do not and I would not have submitted the report to the Court on the basis of the raw data. I would have insisted on seeing the defendant."

The Court: "(Dr. Crain) ...has said he couldn't give an opinion to the Court based on the tests alone. (p. 6637)." Dr. Crain was the one psychologist at the trial who did not violate his professional ethical guidelines.

20. Dr. Diamond testified (pp. 6979 and 6980): "I might say that I don't wish to give you the impression here that Sirhan is cooperative in the least. Sirhan never talked to me very much. I don't think he ever really believed that I was working for the defense despite the reassurances of his attorneys ... Sirhan represented on my part a power-struggle with Sirhan in which he is very evidently determined to let me know, at least supposed, but I was equally determined to the maximum and I think the struggle still goes on to this day." (pp. 6979, 80)

From the very beginning Sirhan suspected Dr. Diamond was Jewish and it was during the sixth visit (out of a total of 8) that Dr. Diamond confirmed Sirhan's suspicions that Dr. Diamond was indeed Jewish. Sirhan's reaction is best seen through the eyes of Dr. Diamond:

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*Transcript spelling is "Crain" but the index spells it "Crane".

"... for the first time [Sirhan] demanded to know whether I was Jewish and I told him that I was. Then he went into a kind of tirade about Jews, and he hadn't been told."

"I incorrectly assumed he had been told and he knew, so there was quite a hassle about this, and I didn't think it proper as a psychiatris that I would be Jewish, but finally reluctantly he agreed to go on." (pp. 6979, 6980)

Dr. Diamond testified (at the time of the trial) that his daughter, granddaughter and his son live in Israel. (p. 7043)

Under these circumstances Dr. Diamond certainly should have disqualified himself as a witness in Sirhan's trial. It was impossible for him to remain impartial and objective.

21. Dr. Seward testified (p. 7270, lines 24, 25) that she did know the identity of Sirhan; this means her work was not a "blind analysis" as she claimed and further rules out the necessary objectivity She knew the charge was political assassination (p. 7271). She was aware of Sirhan's identity. Both factors obviously influenced her testimony, although she also improperly testified that her findings were based solely on test materials.

22. Dr. Richardson's testimony is based on his assumption that Sirhan killed Robert F. Kennedy. Without this conjecture which he assumed to be the truth, his whole testimony would be without an anchor-point, without a foundation. While he claimed he based his statements on psychological tests, his testimony clearly shows it was

the preconceived conviction that Sirhan killed Robert F. Kennedy that molded his testimony; his statements were selected largely to support that fact.

23. Dr. George DeVos testified about Sirhan, yet he never examined Sirhan himself. He should never have presented to the court a diagnosis of "paranoid schizophrenia" (p. 7308) as he did, basing it merely on opinions and test materials gathered by others, such as Dr.'s Pollack, Schorr, and Richardson. If a professional expresses a professional opinion, he must examine the patient himself. Furthermore, his was not a "blind analysis" for he knew the test materials were from Sirhan. (p. 7328. Lines 1,2,3) Sirhan's name was on the test materials. Dr. DeVos also testified that the test materials he used as a basis for his evaluation given to him were incomplete (p. 7320) as indicated by the fact that he did not receive individual responses for his evaluation.

24. Dr. Marcus testified on the basis of a book "The American People" by Muzzey (p. 6790, 6792) that Sirhan had underlined two portions of it dealing with McKinley's assassination. There is an addition to the printing in someone's handwriting stating "Many more will come!" The defense attorney, Mr. Cooper, made the stipulation that it was Sirhan's handwriting, although he is not a handwriting expert. There is no evidence to support this assumption for the handwriting distinctly differs from the many handwriting samples I received from Sirhan.

During the course of preparing this affidavit, Mr. M. McCowan's defense investigative file was brought to my attention. Of particular

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interest here was the pedantic collation of Sirhan's books taken by McCowan. These books were twenty-nine in number and the list was given to Sirhan's family. The before-mentioned book is included in this list. Mr. McCowan describes with great detail "The American People" by Muzzey. On page 373 over a picture of Ulysses S. Grant is written "Nuts to myself" twice. This is written with a fine pencil and very lightly. Mr. McCowan concludes his report of this book: "The writing does not appear to be Sirhan's writing", and Mr. McCowan clearly states: "The above concludes the writings in this book". However, on page 527 there is a very strongly pressued pen underlining "It was his last public utterance..." And there is a handwritten addition: "Many more will come." This sentence Dr. Marcus quoted at the trial. If McCowan could see the very fine writing on p. 373, how could he fail to see the different and heavily underlined notations on p. 527? In view of the fact that Mr. McCowan's research is so thorough, I find it incomprehensible that this could have been overlooked. Sirhan's consistent feelings about strange handwriting in his notebook and this addition leads me to believe that someone other than Sirhan underlined and made notes in this book -- at some date after these books were taken from Sirhan's home.

25. Reading and studying carefully the transcript of Sirhan's trial, there is a dominant impression that the psychiatric-psychological team, largely made up of Jewish doctors, pooled their efforts to prove that Sirhan, the hated Arab, was guilty and insane, a paranoid schizophrenic. Subsequent studies I have done in a more neutral, trusting relationship at San Quentin clearly point out the simple truth: Sirhan is not and was never a paranoid schizophrenic. The jur

was fed pooled information, the main author of the defense strategy being Dr. Diamond. The evidence suggests that Dr. Diamond was wrong, was not objective enough and was not an impartial searcher for truth as a psychiatrist in such a grave situation involving a man's life and death should be. The testimony that followed, too often utilized textbook stereotyped descriptions, rather than the life and personality of a bright young Arab, Sirhan Sirhan. Sirhan had become the center of a drama that unfolded slowly, discrediting and embarrassing psychology and psychiatry as a profession. He was the center of a drama, the true center of which probably still lies very much concealed and unknown to the general public. Was he merely a double, a stand-in, sent there to draw attention? Was he at the scene to replace someone else? Did he actually kill Robert Kennedy? Whatever the full truth of the Robert F. Kennedy assassination might be, it still remains locked in Sirhan's mind and in other, still anonymous minds.

26. Dr. Diamond testified (p. 6848): "(Sirhan) was more than willing to communicate to me that he had shot and killed Senator Kennedy." Sirhan told me that he did not trust Dr. Diamond, that he was making up stories for him to please and confuse him. (p. 6884) Dr. Diamond is correct in admitting that Sirhan lied to him and that it was difficult for him to determine what was truth, what was lie. Yet he drew conclusions from such material, presenting it as the full truth.

To illustrate Dr. Diamond's typical tendency to reach beyond his competence and be an expert also in areas of no expertise, he testifie (p. 6854) "I am somewhat familiar with guns ... this type of revolver (that Sirhan used) ... never should have been manufactured and all

available copies should be destroyed..." A response of this type suggests a lack of objectivity and a desire to prove a preconceived notion. Dr. Diamond erred in assuming the role of a gun expert. He calls Sirhan "careless" and "irresponsible" (p. 6854) for not unloading his gun; it could have just been an oversight.

27. (p. 6865) Dr. Diamond: "...it was possible for me to pick up subtle evidence of mental illness." Yet he omitted the source of the evidence from his testimony. I, in contrast, did not see any evidence of "mental illness" in Sirhan in my extensive psychological testing, nor in his spontaneous behavior during the numerous hours we spent together.

28. (p. 6865) If Dr. Diamond's label for Sirhan, "dementia praecox" was correct, Sirhan would have to be incurably insane; that is what this label means. Sirhan was not "incurably insane", or even "insane" as I found from my testing and interviews that extended to the summer of 1969. Dr. Diamond was also wrong testifying that dementia praecox includes "violent activity of all kinds". In fact, such patients are confused, withdrawn, and regressed but seldom violent. "Whatever strange behavior I showed in court," Sirhan told me, "was the result of my outrage over Dr. Diamond's and other doctor's testimony. They were saying many things about me that were grossly untrue, nor did I give them my permission to testify in my behalf in court."

A conclusion emerges from the study of court transcripts that the Sirhan's "notebooks" were modified and changed to support the improper diagnosis of paranoid schizophrenia. This is an assumption that should not be ignored.

29. Dr. Diamond is wrong in testifying that the evidence for

psychosis was obtained when Sirhan was under hypnosis (p. 6881). The fact is, paranoid schizophrenics are almost impossible to hypnotize. They are too suspicious and do not trust anybody, including friends and relatives, not to speak of a hypnotist from, for him, the most hated race. Psychotics in general are among the poorest subjects for hypnosis. They cannot concentrate, they do not follow instructions and basically do not trust. Sirhan, however, was an unusually good hypnotic subject. Sirhan asked me to hypnotize him, which I did not do, in order not to contaminate my test findings with fantasties. He himself had manufactured a hypno-disk was practicing self-hypnosis in his Death Row Cell, an activity requiring considerable self-control which no psychotic has. The fact that Sirhan was easy to hypnotize, as testified by Dr. Diamond, proves he was not a paranoid schizophrenic (during one hypnotic experiment Dr. Diamond made Sirhan jump around, like a monkey; only good hypnotic subjects respond so readily to hypnotic suggestions).

30. (p. 6907) Dr. Diamond testified: "Schizophrenia (as he diagnosed Sirhan) is a disease of the mind which is all pervasive." Admitting this, he presented no evidence, no proof that Sirhan was totally disorganized, "sick" across the board in his mental functioning. Quite to the contrary, numerous witnesses saw him as highly intelligent and well oriented. The fact that Sirhan's behavior was quite appropriate to the reality he was in makes his behavior essentially normal. Normal behavior is tuned in to reality, is fitting to the circumstances in which the person finds himself. The "mentally ill" person does not like his reality and handles it by substituting a world of fantasies; he substitutes his fantasies and wishful thinking to reality, something he can handle without loss of self-esteem.

31. (p. 6914) Dr. Diamond used hypnosis in 6 sessions out of 8 with Sirhan. What was the purpose of it? To plant ideas in Sirhan's mind, ideas that were not there before? To make him accept the idea that he killed Robert F. Kennedy? Dr. Diamond's testimony certainly suggests this. Dr. Diamond testified (p. 7187) that he could not guarantee the authenticity of what Sirhan said under hypnosis. "I make no claim whatsoever (p. 7188) for hypnosis as indicating the validity or the truth of a statement. So I can't vouch for the truth. But it did allow me to obtain a great deal of additional information ... about Sirhan's feelings." At other times, however, Dr. Diamond contradicted himself as far as the usefulness of hypnosis is concerned.

When Dr. Diamond was unable to get Sirhan to admit that he wrote the notebooks, he testified: (p. 6978) "... so I undertook some experiments on possible hypnotic suggestion." This admission strongly suggests the possibility of hypnosis being used for implanting hypothetical ideas in Sirhan's mind, rather than uncovering facts.

31. (p. 6916) A lie-detector (polygraph), not hypnosis, should have been used in finding out whether Sirhan killed Robert Kennedy. Why was a lie-detector not used? It should have been, as it is much more reliable than hypnosis which often provided contaminated results.

A polygraph evaluation should have been made asking a simple question: "Did you, Sirhan, shoot R.F.K?" This was never done. Dr. Diamond's testimony is wrong, as he states (p. 6916) "I have little or no faith in the accuracy (of a lie detector)." The truth is, the polygraph exceeds in accuracy certain techniques, such as hypnosis that tend to fuse and contaminate experiences from past and

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present and also can be influenced significantly by the operator (hypnotist); it makes a significant difference who the hypnotist is.

32. (p. 6917) Sodium Amytal interview is also quite harmless and probably more helpful than hypnosis; unfortunately, it also was not used to get at the truth. While more appropriate, the risks involved in the use of Sodium Amytal were greatly exaggerated. The court obviously relied too heavily on Dr. Diamond's testimony, which was so biased that it should have been discarded in its entirety.

33. The handwriting of Sirhan in his notebooks differ, often drastically, from the handwriting on numerous test materials I obtained from Sirhan at San Quentin. Whether someone else wrote the notebooks or whether they were written under some special influence, such as hypnosis, is entirely unsolved. If someone hypnotize him when the notebooks were written, who was it? Unfortunately, the defense failed to bring in a handwriting expert. No one apparently asked this very important question at the trial where the professionals were primarily over-eager to prove that Sirhan was a paranoid schizophrenic.

Dr. Diamond testified (p. 7199): "I doubt that he (Sirhan) believes that it was truly his writing in the notebook threatening the assassination of Robert Kennedy; I know that he does not believe that he actually wrote the automatic writing I showed here in the courtroom."

Dr. Diamond testified (p. 6977): "I asked him (Sirhan) about the various details of automatic writing (in the notebooks), this and another card which we experimented with, and he observed that

some of the r's were made in an unusual manner and he answered, he wanted to know whether we had hired a handwriting expert to forge the papers (forge his handwriting)."

Dr. Pollack testified (p. 7550) that Sirhan doubted the handwriting in the notebooks was his.

At no time did Sirhan offer the admission that he wrote the notebooks; yet the notebooks were one of the most important parts of evidence leading to his conviction. (p. 6978) Sirhan rejected and disowned the notebooks. According to a handwriting analyst's testimony (p. 7415) the handwriting in the notebooks was by someone who was "taking a little more pains with it than he ordinarily does". It is unlikely people do this in their notebooks; a more reasonable assumption is, it is done more by someone who tries to imitate a handwriting. Mr. Sloan, the prosecution's handwriting analyst, (p. 7432) was very likely also influenced by the fact that he believed Sirhan killed Robert Kennedy. I strongly suspect the notebooks are a forgery, for the thinking reflected in them is foreign to the Sirhan I carefully studied.

34. Dr. Diamond, the defense psychiatrist, blocked further evaluation of Sirhan by Dr. Pollack when Dr. Pollack did not agree with his views on Sirhan, thus further adding to the bias of promoting one specific interpretation to the jury. (Dr. Pollack did not agree with the diagnosis of Sirhan as a "schizophrenic" or "paranoid schizophrenic", as did the psychiatric TEAM working under the direction of Dr. Diamond.)

The following testimony is from Dr. Pollack (p. 7725): "I found no symptoms of any psychosis in Sirhan."

(p. 7513) "Sirhan was NOT psychotic."

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(p. 7572) "Sirhan was not in hypnotic trance when shooting R.F.K."
(Did he know for sure, or did he only assume that Sirhan shot R.F.K.?) How did he know Sirhan was NOT in a hypnotic trance?

(p. 7583) "It is very difficult to hypnotize a psychotic person" yet Dr. Diamond's testimony shows that Sirhan was very easy to hypnotize!

(p. 7768) "Dr. Diamond expressed a great deal of anger and resentment" over Sirhan's being examined by Dr. Pollack.

(p. 7736) Dr. Pollack to D. A. Younger: "... Dr. Diamond's inferences do not carry the weight of reasonable medical certainty."

(p. 7769) "Dr. Diamond led me to believe very strongly that he no longer wanted me to participate(in examining Sirhan)." Consequently, Dr. Pollack no longer continued to examine Sirhan, although he felt it was necessary.

In a more proper and ethical evaluation of Sirhan all the psychologists and psychiatrists should have worked independently. They should NOT have worked as a team, contaminating and influencing each others' views and findings. For example, Dr. Richmond's testimony stated that Schorr's findings made him change his conclusions (p. 6447) and Dr. Diamond eliminated Dr. Pollack's further study of Sirhan after he found he did not agree with him. Had it been a proper, ethical procedure, Sirhan would have been independently examined by each doctor. The findings should have been offered independently by each doctor to the jury -- then their evaluations would have been more objective and closer to the truth. Certainly the jury would have had a more true and valid picture of the kind of man Sirhan actually is. As it happened, the jury was over-exposed to Dr. Diamond's stereotyped

speculations, views, and biases. The people who agreed with him were merely his echo.

(pp. 7195, 7196) The doctors: Diamond, Pollack, Richardson, Schorr and Marcus met in Defense Lawyer Grant Cooper's office library for more than six hours on February 2, 1969. Also present, part of the time, was Dr. Stanley Abo, a physician. This is both highly unethical and improper. Diagnosis is not to be established by a majority vote or a committee but rather by what the patient's behavior communicates to a doctor. No such team conference between doctors should have taken place at the early inception of the trial -- just as it would have been illegal and improper for the jurors to meet together at this early phase of a trial to discuss whether the man on trial is guilty or innocent! The court takes great pains to warn the jury not to discuss the case until the trial is concluded.

35. Dr. Schorr is guilty of plagiarism. In his written report on Sirhan, Schorr borrowed extensively, very nearly verbatim from Dr. James A. Brussel's Casebook of a Crime Psychiatrist. Dr. Schorr copied from the chapters "The Mad Bomber" and "Christmas Eve Killer" -- two cases NOT similar to Sirhan's; yet Dr. Schorr's report on Sirhan shows a "striking similarity" with these cases (p. 6188). Dr. Schorr (p. 6201) borrowed verbatim from the above mentioned work -- which is not a scientific source for an important evaluation of a man fighting for his life. At the same time Dr. Schorr testified to the jury that his work was all "independent" (p. 6204) -- this is patently inaccurate. He was borrowing verbatim, while claiming it was his own, his own alone, and all derived from the psychological tests (p. 6256). Dr. Schorr repeated unidentified quotations from

the "Mad Bomber" thus rendering his report of Sirhan invalid. Such conduct by a psychologist leaves in question his skill as a psychologist in general. Dr. Schorr (p. 6282) copied six quotes from the "Mad Bomber" and inserted them in his final report on Sirhan. Dr. Schorr (p. 6285) further testified that Sirhan had delusions between ages 4-14. This is impossible to tell, as Dr. Schorr was not able to study or see Sirhan between the ages of 4 and 14. Mr. Howard, the Assistant District Attorney, commenting on Dr. Schorr's borrowing from a colleague's book of crime to describe paranoid schizophrenia stated, quite correctly: "This is the most dishonest thing a witness can do before this court or any court."

36. Sirhan informed me that he was never warned that the responses to psychological tests he gave could be used in court and could be used against him. He thought that such material is part of a doctor-patient relationship and confidential. When Sirhan attempted to speak out at the trial over what he knew to be incorrect testimony by a doctor, he was threatened by Judge Walker, who told him that no such "blow-ups" were to be tolerated (p. 1551). For instance: Sirhan: "Your Honor, Sir..." The Judge: "You sit down or I will do what I told you I was going to do." (forcefully shut him up.

Sirhan told me that Dr. Diamond said to him he was not a schizophrenic and paranoid but that he was telling this to the court only in order to save his life, to win the case. Sirhan was angry with Dr. Diamond because of such betrayal which he did not accept or approve of, yet over which he had no control. As a result, Sirhan felt not only a prisoner of the legal authorities, but of the psychologists and psychiatrists who examined him as well. Under the above circumstances, such testimony would have to be seen as illegal

as well as invalid.

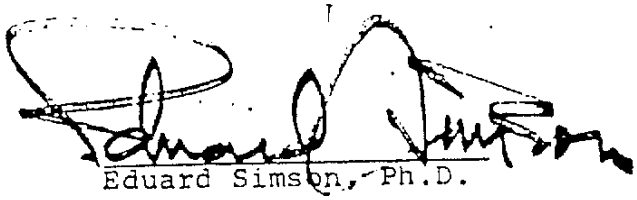
37. Dr. Diamond's testimony strongly suggests that his hidden aim was to disturb Sirhan emotionally with the use of hypnotic experiments so he would behave like a paranoid schizophrenic, and so support his theories (I would more appropriately term them Freudian fantasies) which would explain why Sirhan killed R.F.K.

38. In summary, my repeated psychological testing of Sirhan Sirhan after his trial and our interviews strongly indicate that the psychiatric-psychological testimony at the trial was full of numerous factual errors and misleading to the jury. Most of the doctors testifying saw their role in proving why Sirhan killed Kennedy, which required a focus on pathology (mental illness) that I found does not exist. They failed to consider the real facts in a more objective light and failed to consider the possibility clearly suggested by the ballistic testimony and Sirhan's own testimony under close scrutiny that perhaps Sirhan did not kill Robert F. Kennedy.

Sirhan's trial was not handled properly by the mental health professionals. In retrospect, a close study of the trial testimony and my own extensive study of Sirhan leads to one irrevocable and obvious conclusion:

Sirhan's trial was, and will be remembered, as the psychiatric blunder of the century.

Dated: March 9, 1973

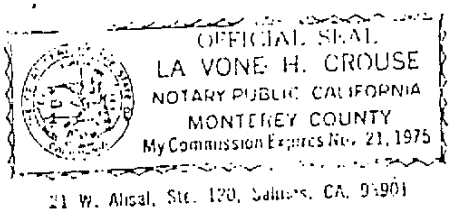


Eduard Simson, Ph.D.

STATE OF CALIFORNIA)

COUNTY OF MONTEREY)

On this 9 day of March, 1973, before me appeared, personally, EDUARD SIMSON, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same.



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Notary Public in and for said County and State